ACF - INTERNATIONAL NETWORK

HOW TO MAKE WASH PROJECTS SUSTAINABLE AND SUCCESSFULLY DISENGAGE IN VULNERABLE CONTEXTS

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A PRACTICAL MANUAL OF RECOMMENDATIONS AND GOOD PRACTICES BASED ON A CASE STUDY OF FIVE ACF-IN WATER, SANITATION AND HYGIENE PROJECTS

ACF-INTERNATIONAL NETWORK

ACF-FRANCE, TECHNICAL DEPARTMENT,

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HOW TO USE THIS MANUAL?

This manual aims to be a practical tool and hence the information has been referenced using colours to facilitate the navigation and to highlight the key recommendations:

Normal body of the text

Key information

Secondary information - provided by field case studies, especially from the research undertaken in Lao PDR, Cambodia, Liberia, Kenya and Colombia on the ACF-IN strategies, programmes and projects and others

EXECUTIVE SUMMARY

Achieving sustainability of water, sanitation and hygiene promotion has continued to challenge southern governments and development actors. Sustainability is affected by a wide number of factors, including those internal to communities and their dynamics, those influenced by the project design and factors external to the particular context. Sustainability is not usually the main priority in the immediate aftermath of an acute emergency event, but increasingly emergencies have become protracted, it is difficult to differentiate or separate chronic emergency situations from situations with chronic structural problems, and in other contexts communities may be vulnerable to repeated conflicts or natural disasters. Increasingly therefore, humanitarian actors such as the ACF-IN, are faced with longer term complex situations in which communities are still vulnerable, but in which sustainability of interventions is crucial if the interventions are to last long beyond the project period and have a longer term impact.

When the usual challenges to sustainability are compounded with additional challenges from vulnerable contexts the opportunities for failure increase yet further. Examples may include the limited access for trained staff to insecure areas, the death or displacement of trained community members or leadership, displacement of whole or part of communities which may increase the numbers of people using specific services, changes in community solidarity, risk of structural damage from natural disasters, or theft of equipment.

The research, undertaken during 2007, has learnt from previous and current approaches of the ACF-IN Missions, from communities, a wide range of sector actors and from desk based research, as to the factors which affect sustainability, the major challenges, and examples of good practice. The aim of the manual is to document the learning and to share good practice within the ACF International Network, and outside where appropriate, on responding to sustainability in vulnerable contexts. The research has included four periods of field work in Lao PDR / Cambodia, Liberia, Northern Kenya and Colombia, selected to provide a range of contexts, challenges and examples of good practice.

Key findings of this research include that ACF-IN already commits within its Water & Environmental Sanitation Policy, 2006, to supporting communities to have sustainable interventions, and the programmes visited as part of the research were seen to already be making efforts towards this goal through activities such as the training of mechanics, supporting water and sanitation committees, selecting simple technologies and in some cases providing back up support after the time the initial implementation ends. However more attention is still needed to the contributions which humanitarian actors can and should make to sustainability when working in vulnerable contexts. A repeated message from documented researches is the need to pay more attention to engaging and capacity building the local intermediate level actors to be able to provide back up support over the longer term. The reason why many of the projects become unsustainable is not because of technical issues but related to management, social relationships and community dynamics.

Whilst it is important to put increasing effort into ensuring that projects are sustainable[1], humanitarian actors should be honest with the donors, other sector actors and communities, about the challenges that are faced in trying to support sustainable projects and the additional challenges that are faced in vulnerable contexts. Different models for management should be considered, allowing communities a degree of choice depending on which they feel will work best in their communities along with choices around technical options and levels of service. The transition from emergency to increased stability and ideally development needs an increasing alignment with government policies and structures. Whilst governments face many challenges in undertaking their responsibilities, effort should still be made to form the linkages and align with policies wherever possible. More effort should be made to engage local intermediate level actors in the projects and ensure that communities know where they can go for help if they face a problem they are unable to solve. Humanitarian actors should also ensure that new projects include a budget for follow up back-stopping support to previous projects and donors more routinely include a percentage of funding for this in the projects they fund. Financial mismanagement is one of the key risks to community solidarity with water and sanitation committees and so particular attention should be made to ensure that there is an effective system of regulation, or a clear audit processes in place which the whole community is aware of.

Humanitarian actors should be considering working in partnership as a standard working modality, helping to build the capacity of local institutions whilst at the same time benefiting from their local knowledge, links and experiences, and hopefully contributing the leaving behind stronger institutions when they depart. Country strategies should be prepared for a 3 year period, considering different scenarios and should incorporate key elements of the Countries Missions' exit strategies including from projects, programme areas and the country.

1 / With some exceptions, such as in acute situations and temporary camp situations.

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STAFF FROM GOVERNMENT DEPARTMENTS:

- **Lao PDR** - Naam Saat, Moung Long & Loung Namtha; Public Health Department, Long Namtha; the National Centre for Environmental Health & Water Supply; and the National Disaster Management Office.
- **Liberia** - Ministry of Public Works; Liberia Refugee, Repatriation & Resettlement Commission (LRRRD), Bong County; County Health Team, Bong County; Planning Department, Bong County; Superintendents Office, Bong County.
- **Kenya** – Ministry of Health, Mandera; Northern Water Services Board of the Ministry of Water & Irrigation, Mandera; Arid Lands Resources Management Project, Mandera & Nairobi; Ministry of Gender, Youth, Sport & Social Services, Mandera; County Council, Mandera.
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LOCAL NGOS, CBOS, LOCAL RED CROSS & THE PRIVATE SECTOR:

Cambodia – Teuk Saat; Développement & Education pour L'Eau Potable (DEEP); **Kenya** – RACIDA; **Colombia** – CORSOC; **Liberia** – Foundation for all Ages, Liberia (FAAL); Hydro Tech Inc; Rural Agriculture Development Programme (RADP); Liberian Initiative for Developmental Services (LIDS); Liberia NGOs Network (LINNK); Liberia Red Cross (LRC); Community Aid Liberia (CAL); Community Development Services (CODES); Community Empowerment & Development Association (CEDA); African Development Network (ADEN); East Bank Development Association (CBO); Catalyst; Liberia Environmental Care Organisation (LECO); Eden Preferred Water Systems (Drilling); Mr Joseph G. Naleh, spare parts dealer, Boto-ta, Bong.

DONORS & UN:

EU / ECHO – Brussels, Liberia, Kenya, East, Central & South Africa & West Africa regions ; DFID – London, Liberia & Sierra Leone; **Swiss Development Corporation** – Colombia; **UNICEF** – Lao PDR, Liberia and Colombia; **PAHO –** Colombia; **OFDA** – Liberia; **UNDP** – Liberia; **WSP** – Lao PDR.

INTERNATIONAL NGOS & THE RED CROSS MOVEMENT:

Lao PDR – French Red Cross; Concern Worldwide; ADRA; **Liberia** – Solidarité; Tear Fund; Concern Worldwide; American Refugee Committee; **Kenya** – Vétérinaires Sans Frontières; Islamic Relief, Mandera & Nairobi; OXFAM-GB; Practical Action, CARE, SC-UK ; **Colombia** – OXFAM-GB.

ACF-IN – STAFF OR TEAMS IN:

- **Lao PDR** – Moung Long & Vientiane; **Cambodia** – ex staff from Mondulkuri Province & Phnom Penh; **Liberia** - Bong County & Monrovia; **Kenya** – Mandera District & Nairobi; **Colombia** – Córdoba Department & Bogotá.
- Other country Missions – Azerbaijan / South Caucasus; Mali; Argentina.
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PRESENTING ACF-IN APPROACHES AND PROGRAMMES

Action Contre la Faim (ACF) (formerly Action Internationale Contre la Faim) is an independent, a-political non-governmental humanitarian organisation which is internationally recognised as one of the world's premier organisations in combating hunger. ACF intervenes in humanitarian situations involving war, famine, natural disasters and other crises to bring help to displaced people, refugees and any other populations in danger. After the emergency is over, continuity of action helps affected people recover their independence through medium and long-term programmes. The prevention of disasters is also one of its objectives. ACF developed an international network with the opening of Accion Contra el Hambre in Madrid and Action Against Hunger in London and New York and recently an office in Toronto. ACF-IN has 350 international volunteers and 4,000 national staff working in over 40 countries and responds in all four areas involved in the fight against hunger and malnutrition: nutrition, health, food security, and water, sanitation and hygiene.

THE CHARTER

Action Contre la Faim (ACF) is a non-governmental organisation. Private, non-political, non-denominational and non-profit making, it was set up in France in 1979 to intervene in countries throughout the world. ACF vocation is to save lives by combating hunger, disease, and those crises threatening the lives of men, women and children.
ACF intervenes in the following situations:

- In natural or man-made crises which threaten food security or result in famine,
- In situations of social/ economic breakdown linked to internal or external circumstances which place particular groups of people in an extremely vulnerable position,
- In situations where survival depends on humanitarian aid.

ACF intervenes either during the crisis itself, through emergency actions, or afterwards, through rehabilitation and sustainable development programmes. ACF also intervenes in the prevention of certain high risk situations. The ultimate aim of all of ACF's programmes is to enable the beneficiaries to regain their autonomy and self-sufficiency as soon as possible.

ACF RESPECTS THE FOLLOWING PRINCIPLES:

INDEPENDENCE - ACF acts according to its own principles so as to maintain its moral and financial independence. ACFs actions are not defined in terms of domestic or foreign policies nor in the interest of any government.
NEUTRALITY - ACF maintains strict political and religious neutrality. Nevertheless, ACF can denounce human rights violations that it has witnessed as well as obstacles put in the way of its humanitarian action.
NON DISCRIMINATION - A victim is a victim. ACF refutes all discrimination based on race, sex, ethnicity, religion, nationality, opinion or social class.
FREE AND DIRECT ACCESS TO VICTIMS - ACF demands free access to victims and direct control of its programmes. ACF uses all the means available to achieve these principles, and will denounce and act against any obstacle preventing it from doing so. ACF also verifies the allocation of its resources in order to ensure that the resources do, indeed, reach those individuals for whom they are destined. Under no circumstances can partners working together with or alongside ACF become the ultimate benefactors of ACF aid programmes.
PROFESSIONALISM - ACF bases the conception, realisation, management and assessment of its programmes on professional standards and years of experience, in order to maximise its efficiency and the use of its resources.
TRANSPARENCY - ACF is committed to respecting a policy of total openness to partners and donors and encourages the availability of information on the allocation and management of its funds. ACF is also committed to providing guarantees of proof of its good management.

ACRONYMS

AAH-UK	Action Against Hunger, UK
AAH-US	Action Against Hunger, US
ABO	Area Based Organisation
ACF	Action Contre la Faim
ACF-IN	Action Contre la Faim International Network
ACH	Action Contre el Hambre
ADRA	The Adventist Development and Relief Agency
ALRMP	Arid Lands Resource Management Programme, Kenya
ASAL	Arid and Semi Arid Lands
CBM	Community Based Management
CEDA	Community Empowerment & Development Association (Monrovia, Liberia)
CHASE	Conflict, Humanitarian & Security Department (DFID)
CST	County Support Team, Liberia
DDRR	Disarmament, Demobilisation, Rehabilitation & Reintegration
DFID	Department for International Development, UK Government
DM	Disaster Mitigation
DP	Disaster Prevention
DPrep	Disaster Preparedness
DRR	Disaster Risk Reduction
EC	European Commission
ECHO	European Commission, Directorate General for Humanitarian Aid
EU	European Union
EWS	Early Warning System
FIM	Flood Information Management
GFS	Gravity Flow System
GS/GI	Galvanised steel / galvanised iron
GoC	Government of Colombia
GoK	Government of Kenya
GoL	Government of Liberia
GoLPDR	Government of Lao PDR
HDI	Human Development Index
HOMI	ACF-IN international heads of missions meeting
IEC	Information, Education, Communication
IIRR	International Institute for Rural Reconstruction
INGO	International Non-Governmental Organisation
ITN	Insecticide Treated Bed Nets
LINNK	Liberia NGOs Network
LNGO	Local Non Governmental Organisation
LRRD	Linking Relief, Rehabilitation & Development (used by the EC)
LRRRC	Liberia Refugee, Repatriation & Resettlement Commission
LWSC	Liberia Water and Sewer Corporation
M&E	Monitoring & Evaluation
MC/P	Management committee / private sector
MDGs	Millennium Development Goals
MEL	Monitoring, Evaluation & Learning
MoE	Ministry of Education
MoH	Ministry of Health
Nam Saat	The National Centre for Environmental Health and Water Supply, Lao PDR
NGO	Non-Governmental Organisation
O&M	Operation & Maintenance
OFDA	Office of Foreign Disaster Assistance, USA
PAHO	Panamerican Health Organisation
PAR	Participatory Action Research
PLWHA	People Living with HIV & AIDS
PPP	Public-Private Partnership
PRA	Participatory Rural Appraisal
PRS(P)	Poverty Reduction Strategy (Programme)
PSP	Private Sector Participation
SDC	Swiss Development Cooperation
SGBV	Sexual and Gender Based Violence
SWE	Small Water Enterprises
TBA	Traditional Birth Attendant
UNDP	United Nations Development Programme
UNHCR	United Nations High Commissioner for Refugees
UNICEF	United Nations Children's Fund
UNMIL	United Nations Military Intervention in Liberia
USAID	United States Agency for International Development
VLOM	Village Level Operation and Maintenance
WASH	Water, Sanitation & Hygiene
WATSAN	Water, Sanitation & Hygiene
WHO	World Health Organisation
WSP	Water and Sanitation Program, World Bank
WSP	Water Service Provider (as per Water Act 2002, Kenya)
WSRB	Water Services Regulatory Board (as per Water Act 2002, Kenya)
WSS	Water Supply & Sanitation

TERMINOLOGY USED IN THIS REPORT

	TERMINOLOGY USED FOR COMMITTEES AND COMMUNITY VOLUNTEERS (DIFFERS IN CASE STUDIES BY COUNTRY & PROGRAMME)
CWC	Community Water Committee
DDC	District Development Committee
VHC	Village Health Committee
VHV	Village Health Volunteer or Village Hygiene Volunteer
VHW	Village Health Worker
VPM	Village Pump Mechanic
VTV	Village Technician Volunteer
VW&HC	Village Water & Health Committee
WC	Water Committee (sometimes also includes hygiene & sanitation)
WPC	Water Point Committee

WORD	DESCRIPTION IN ENGLISH
'Aqueducts'	Water supply systems including all stages of the supply process (translation from the Spanish word Acueductos).
'Capitalisation'	The collation of useful information and documenting in such a way that it can be effectively shared and hence 'capitalised' on.
'Communitary Mother'	A woman who looks after young children during the day – such as in a playgroup or pre-school in Colombia.
'De-structuration'	The breakdown of the institutions and structures and where there is no formerly recognized government or when the government is not able to meet its responsibilities towards the population.

WORD	TERMINOLOGY FOR DIVISIONS OF COUNTRY				
	LAO PDR	**CAMBODIA**	**LIBERIA**	**KENYA**	**COLOMBIA**
Region	Province	Province	County	Province	Department
District (urban & rural)	District	District	District	District	Municipality
Sub-district or group of villages	-	Commune	-	Division	-
Village	Village	Village	Town	Village	Village

APPROXIMATE CONVERSION RATES, 2007:

4,050 Riels (Cambodia) = 1 USD
9,410 Kip (Lao PDR)= 1 USD
60 Liberian Dollar = 1 USD
64 Kenyan Shillings = 1 USD
1,956 Colombian Peso = 1 USD

DEFINITIONS

TERM OR LOCUTION	DEFINITION (HOW THE TERM IS USED IN THE CONTEXT OF THIS RESEARCH)
Complex emergency	A humanitarian crises where there is a considerable breakdown of authority resulting from internal or external conflict and may lead to extensive loss of life, massive displacements, and widespread damage to societies and economies, and needs large scale multi-faceted humanitarian assistance.
Contiguum	A mixed situation where development aid and humanitarian aid are present simultaneously in one country.
Continuum 'Emergency-Development'	A straight line between a humanitarian situation through to recovery, rehabilitation and development.
Disaster mitigation	Measures or actions which reduce the effects of hazard events through reducing the impact of the resultant disaster (an example being designing buildings to earthquake resistant standards which can prevent loss of life and also possibly destruction of the building).
Disaster preparedness	Measures or actions which prepare communities and organisations for a disaster event, so that they have more capacity to cope with that event and hence reduce their vulnerability (an example may be to develop an early warning system or the preparation of a safe area).
Disaster prevention	Measures or actions which reduce disasters from occurring by reducing the risks which lead to disasters (for example reforestation may prevent the risk of a landslide occurring).
Disaster risk	$\text{Risk} = \frac{\text{Hazard \& Vulnerability}}{\text{Capacity to respond}}$
Disaster Risk Reduction	Measures or actions which reduce the potential impacts from hazards such as earthquakes, volcanoes, floods and other events. Usually activities are grouped into three different categories – disaster mitigation, disaster prevention & disaster preparedness.
Disengagement	The process of leaving, disengaging or exiting from a project, a programme area or a country.
Equity	Used to highlight the need to ensure equal opportunity; impartial; fair; just for all groups in a community.
Exit	The process of exiting, disengaging, or leaving from a project, a programme area or a country.
Gender	The roles, responsibilities, needs, interests and capacities of men and women (which are socially determined).
Operation & Maintenance	The activities which are undertaken to operate or to run, and to maintain or keep in good order a facility, system, or piece of equipment.
Recovery	Move towards a previous state after a period of disruption.
Rehabilitation	Repair and sometimes improvement of a facility to bring it to a good working condition.
Sustainability	The likelihood of structures, facilities, projects, initiatives continuing to provide a good service over the longer term beyond the lifetime of the project. The length of time that the same are expected to be sustainable depends on the design of the facility or project and may be time bound, or sustainability may be interpreted as having no time-line but continuing forever.
Preventative maintenance	Maintenance undertaken on a regular basis to replace or repair worn parts, tighten bolts, change oils and other, which helps to keep the service continual without breakdown and hence provide a good service to the community.
Reactive maintenance or repair	Maintenance undertaken in response to breakdowns and complaints about poor service, often results in greater damage to parts and faster wear and tear to the equipment and more down time when the equipment is not operational.

CONTENTS

CHAPTER 1
STRATEGY AND INSTITUTIONAL

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A.1 INTRODUCTION TO SUSTAINABILITY & DISENGAGEMENT STRATEGIES

A.1.1 RATIONALE FOR IMPROVING SUSTAINABILITY & DISENGAGEMENT STRATEGIES

MDGs and sustainability
If the Millennium Development Goals are to be met, significant attention needs to be made to ensuring sustainability of WASH systems and facilities after initial investment, or the capital investments will be lost once they fall into disrepair.

Annual expenditure requirements to meet the MDGs in Sub-Saharan Africa (2002)[2]

	Capital investment	O&M Management	Sector	Total	% required in rural	Requirements as a % of GDP
Water (Billion USD / year)	1.1	1.8	0.4	3.3	35.8%	1.3%
Sanitation (Billion USD / year)	1.5	1.5	0.4	3.4	55.5%	1.4%
Total	**2.6**	**3.3**	**0.8**	**0.8**		**2.7%**

The World Bank estimates that the above sums of money are needed to meet the MDGs in Sub-Saharan Africa. Over time the expenditure needed on operation and maintenance will rise as new schemes are implemented, and countries will need to spend more on maintenance while still ensuring an effective operation and delivery of service. But analysis indicates that there is a shortfall in the required expenditure for operation and maintenance[3]. It is also clear that not enough attention is given to the longer term operation and maintenance by most actors, arguably as it does not provide the same visible outputs as new investment, and hence there is also less political gain (for donors, for governments and other external agencies) from supporting operation and maintenance. But without a focus on operation and maintenance and longer term sustainability, the progress will continue to be limited by one step forward and one step back.

Linking Relief, Rehabilitation & Development (LRRD)
Actions during emergencies can have follow on implications for people's self reliance and ability to recover once stability is reached. Emergency responses may be disconnected from national frameworks and institutions and not only may not consider longer term sustainability, but can damage opportunities in later stages, through creating dependency and eroding the legitimacy of local frameworks and institutions. Whilst some of this may be unavoidable during acute emergency stages, the aim of LRRD and transitional phases is to hand back as much as possible the responsibilities to the national actors who should be responsible for these activities.

Challenges to sustainability
Another challenge to attracting commitments to longer term sustainability and operation and maintenance is that achieving sustainability of water, sanitation and hygiene promotion continues to challenge southern governments and development actors. Sustainability is affected by a wide number of factors, including those internal to communities and their dynamics, those influenced by the project design and factors external to the community context. Most evaluations or research which have looked back at previous WASH projects and assessed their sustainability, have examples of projects which have not succeeded, whether these are in the majority or the minority of the projects re-visited. There is a continual search for ways to improve project processes and help enhance the longer term sustainability of WASH interventions.

2 / Source: 'Calculations as per assumptions described in the text and in footnote 4 and using information from World Bank 2004, Joint Monitoring Program 2000 and 2004', in: WSP (2005) 'Financing the Millennium Development Goals for Water and Sanitation, What will it take?', prepared as a synthesis paper for the finance stream for the Global WASH Forum 2004 in Dakar, Senegal, Sector Finance Working Papers: No 10
3 / WSP (2005) 'Financing the Millennium Development Goals for Water and Sanitation, What will it take?', prepared as a synthesis paper for the finance stream for the Global WASH Forum 2004 in Dakar, Senegal, Sector Finance Working Papers: No 10

Sustainability and vulnerable contexts

Sustainability is not usually the main priority in the immediate aftermath of an acute emergency event, but increasingly emergencies have become protracted, it is difficult to differentiate or separate chronic emergency situations from situations with chronic structural problems, and in other contexts communities may be vulnerable to repeated conflicts or natural disasters. Increasingly therefore, humanitarian actors such as ACF-IN, are faced with longer term complex situations in which communities are still vulnerable, but in which sustainability of interventions is crucial if they are to last longer than the project period and have a much longer term impact. Where supporting people in their home areas the sustainability of the intervention is even more important.

Opportunities for failure increase further when the usual challenges to sustainability are compounded with additional challenges from vulnerable contexts. But, without an attention to the longer term sustainability of WASH projects and programmes the people in the beneficiary communities will loose the opportunity they have to increase the benefits of the project over the longer term, the donors will have less value for money, and the MDGs will be an impossible goal to meet, as repeatedly new or rehabilitated WASH schemes in vulnerable contexts fall back into disrepair.

A.1.2 SUSTAINABILITY

A.1.2.1 Definitions of sustainability

Consideration has also been made as to how long a facility, system or activity should be 'sustainable'. Schouten and Moriarty provide a definition of an equitable and sustainable community managed water service, in which they propose an infinite goal that communities will never have to revert to a lower level of service, which includes the understanding that a system will also be replaced or upgraded at the end of its natural lifetime.

Schouten & Moriarty's, 2003[4], definition of an equitable sustainable community managed service:

'At its simplest, we consider successful community management to be the provision of a fully sustainable service that provides an equitable water supply to a community… by 'sustainable' we mean that once a community has been provided with a given level of service it should never have to revert to a structurally lower level of water in terms of quantity or quality. We also mean that it can sustain a system that will be maintained not only during its natural lifetime, but will also eventually be replaced or upgraded'. 'By 'equitable' we mean that no section of the community is left with their minimum needs unmet'.

Brikké, F, 2000, definition of sustainability[5]:

A service is sustainable when:

- It functions and is being used.
- It is able to deliver an appropriate level of benefits (quality, quantity, convenience, comfort, continuity, affordability, efficiency, equity, reliability, health).
- It continues over a prolonged period of time (which goes beyond the life-cycle of the equipment).
- Its management is institutionalized (community management, gender perspective, partnership with local authorities, involvement of formal / informal private sector)
- It's operation and maintenance, administrative and replacement costs are covered at local level (through user fees, or alternative financial mechanisms)
- It can be operated and maintained at local level with limited but feasible, external support (technical assistance, training, monitoring).
- It does not affect the environment negatively.

4 / Schouten, T and Moriarty, P (2003) Community Water, Community Management; From system to service in rural areas, ITDG Publishing

5 / Brikké, F (2000) 'Operation and Maintenance of Rural Water Supply and Sanitation Systems, A training package for managers and planners', IRC International Water & Sanitation Centre, WHO, Water Supply & Collaborative Council, Operation & Maintenance Network

Whilst it is acknowledged that ideally when referring to sustainability, that it should not be time-bound and that a system should remain forever, it is also important to be realistic in the goals and the expectation of what is possible for sustainability of WASH projects in vulnerable contexts. Therefore the following definition and aims of sustainability have been identified for the work of the ACF-IN. This includes different levels of sustainability for different elements of work, for an expected minimum period, and also wider aims for replication over the longer term wherever possible.

Proposed ACF-IN definition of sustainability[6]
Sustainability refers to the continuation or maintenance of structures or initiatives created, or benefits of inputs distributed, beyond the lifetime of the project and is key to whether a project will achieve a wider and longer-term impact.

When ACF-IN will consider sustainability:
ACF-IN will consider the longer term sustainability as a key consideration in all of its WASH programmes, with a few exceptions where the consideration may be delayed by the particular context, as follows:

- Acute emergency situations - As soon as the immediate response is over and immediate risk to death, property and dignity is over, ACF-IN will start to consider the subsequent stages including issues around sustainability.
- Refugee and IDP camp situations – Environmental sustainability and impacts on local or host communities, will always be considered and depending on the context and length of the people's displacement, sustainability will also be incorporated into the programme design.

Aims of sustainability:
With respect to sustainability ACF-IN will aim for:

- Communities to be able to sustain their water facilities for the design lifetime – between 10-20 years.
- Communities or households to be able to replicate sanitation and wherever possible to be able to replicate water facilities on their own once the original systems fail at the end of their design life.
- Hygiene good practice will be replicated within communities.
- Partner organisations will be able to replicate project support for projects into new communities using new funding without ACF-IN support.
- The government structures including local authorities and / or other NGOs and / or the private sector will be able to provide longer term back-up support to communities to help facilitate problem solving when it is outside the capacity of the communities to solve on their own.

There are a range of different definitions and interpretations of the word 'sustainability'. To facilitate the discussions with communities and programme implementers, a number of different levels of sustainability have been identified - considering environmental sustainability, sustainability of initial facilities for their design lifetime, and replication.

6 / Adapted from the ACF-IN Water, Sanitation and Hygiene Policy d with additional modifications.

ARTIFICIALLY DEMARCATED LEVELS OF SUSTAINABILITY	WATER (domestic & livelihood)	SANITATION (institutional & h/h latrines, environmental, drainage, refuse etc.)	HYGIENE PROMOTION
Environmental sustainability	Project activities and outputs do not irreversibly damage the environment or have wider negative impacts on populations or biodiversity (greater than the positive impacts of the project)		
Level 1 – Sustainability of initial facilities & hygiene practices	Individual facilities sustained for design lifetime	Individual facilities sustained for design lifetime	Beneficiaries sustain good hygiene practices
Level 2 – Replication of the same facilities & hygiene practices	Individual facilities are replicated after end of design lifetime	Individual facilities are replicated after end of design lifetime	Others copy the facilities and good hygiene practices within original communities
Level 3 – Replication of support & training to other communities	Govt, NGO, private sector, others can replicate to new communities	Govt, NGO, private sector, others can replicate to new communities	Govt, NGO, private sector, others can replicate to new communities

Care must also be taken with the translation of the word 'sustainability' as there may not be a direct translation and hence assumptions made when describing the word. Be clear in programme teams and with partners on a common terminology to be used.

A.1.2.2 Sustainability versus the emergency – development continuum & contiguum

Humanitarian, development and transitional contexts can be very complex and the humanitarian and development field are awash with terminology and acronyms to describe the various contexts and transitional phases.

Whilst the humanitarian sector's work is to provide support where communities are vulnerable, it is important to acknowledge that communities have their own coping mechanisms and, as highlighted in the evaluation of the LRRD in the Tsunami response[7], that 'affected populations have their own 'LRRD projects' [Linking Relief, Rehabilitation & Development] that inevitably differ from those designed on their behalf by the aid community'.

Contexts which may lead to humanitarian situations and warrant interventions, where ACF-IN intervenes, can be described in five main groups:

- Open conflict
- Natural disasters
- Post-crises
- 'De-structuration' / chronic situations
- Discrimination / targeting / neglect

Situations can also be:

- Complex - with a number of the above occurring at the same time.
- Contiguum - a situation where development and humanitarian situations are occurring in different locations at the same time.
- In transition from one situation to another – when this is linear this is known as a continuum.

7 / Christoplos, C (2006) Links Between Relief, Rehabilitation and Development in the Tsunami Response, A synthesis of initial findings, London: Tsunami Evaluation Commission, Chpt 1

EMERGENCY, DEVELOPMENT CONTINUUM & CONTIGUUM				
Features of programmes contributing to longer term sustainability	Disaster Risk Reduction (DRR) = Disaster Preparedness (DPrep) & Disaster Mitigation (DM) & Disaster Prevention (DPrev)	Acute Emergency Natural disaster Conflict Complex	Transitional phase LRRD Recovery Rehabilitation Post-conflict & DDR 'The grey area'	Development (& DRR)
		Chronic situations, structural crises, discrimination, neglect Protracted crises		
	Different levels of the above contexts can co-exist (Contiguum) and situations can also fluctuate back and forwards			
Main focus	Minimising risks and vulnerabilities to disasters and reinforcing capacities for response Prevention, mitigation & preparedness	Ensuring survival & dignity	Recovery, rehabilitation and working towards longer term development Reducing dependence on external aid Reintegration & stabilisation in post-conflict situations	Longer term development and sustainability DRR should be part of this context
Activities which will contribute towards sustainability of WASH interventions	Communities identify vulnerabilities Designing appropriate strategies to reduce vulnerability Designing to minimise impacts of disasters Implementing DRR activities	Advocacy re populations who are discriminated against & designing specific responses which will strengthen own ability to sustain WASH Projects designed to make longer term sustainability possible (whenever possible & appropriate)	Supporting the re-establishment of community cohesion through management of WASH More emphasis on building links & capacity of local actors – Govt, NGO, private sector Developing & strengthening partnerships Rehabilitating to minimise the impact of future disasters Projects designed to make longer term sustainability possible	Community managed projects, or community choice of alternative management models Training of community management skills, technical capacity, financial management Development of effective spare parts network More emphasis on building capacity of local actors – Govt, NGO, private sector – sustainability and respect of rights
Activities contributing to equitable and sustainable WASH – across all contexts	Involve communities at each stage of the project cycle – leadership, representatives throughout community, vulnerable groups, technical personnel Listen to communities own expressed needs and learn about their own efforts to recovery – try to support these rather than impose imported solutions Consider and respond to equity related needs – gender and other equity related factors, age, ethnicity, PLWHA, disability, elderly, child, female h/h etc Working collaboratively with (ideally through) local partners – wherever possible – particularly Govt & local NGOs (may be challenging during conflict situations) Capacity building – community members, Govt, NGO, networks, private sector Contributions to capacity building of national institutions – likely to be more difficult in the emergency phase & also where there is discrimination			

The diagram on the previus page attempts to identify the various contexts in which agencies may work, to highlight the various terminologies used and to indicate the main features of programmes which will contribute to the longer term sustainability of WASH interventions at each stage. It is a simplification but provides an overview of complexity of the different situations and their dynamic nature.

A.1.2.3 Specific sustainability challenges in vulnerable contexts

Vulnerable contexts pose additional challenges to sustainability over and above those in developmental contexts. Some of these additional challenges are identified in the table below.

CONFLICTS & AREAS WITH MARGINALISED GROUPS, NEGLECTED OR TARGETED BY GOVERNMENTS	RESOURCE BASED CONFLICTS & COMMUNITIES BADLY AFFECTED BY HIV/AIDS	NATURAL DISASTERS
• Working with Governents vs ensuring political neutrality? • Working with insurgents when they control certain areas? • Neutrality of possible partner organisations? • War damage, landmines, direct targeting water supplies • Trained staff – killed, displaced, unable to access areas • Looting of pipes, transformers etc • No spare parts, economy damaged • Very high inflation, no ability to save • Marginalised groups may have limited formal education, remoteness • Changing population numbers – forced or coerced displacement	• Particularly challenging for dryland areas & where competing livelihood bases • Increasing populations following water improvements: • Exacerbating conflicts, • Increased environmental stress • Death of trained people from HIV/AIDS • Less funds available to elderly or child headed households	• Climate change – changing patterns • Repeated disasters & dependency • Limited disaster preparedness & reduction • Expense - disaster mitigation for protection works, earthquake resistant construction etc • Loss of life including trained personnel

The challenges related to the vulnerable contexts noted above are discussed in more detail in Section B.1.4.6. The following table highlight some of the examples of the particular challenges to sustainability found in each of the four[8] countries visited during the case study.

8 / Lao PDR was the main country visited for the research but some learning was also taken from Cambodia. The two missions were managed by the same management team.

DATA REFERENCE[9]	LAO PDR	CAMBODIA	LIBERIA	KENYA	COLOMBIA
Total population (Million)	5.8	13.8	3.24	33.5	44.9
Human Development Index (HDI) – from a rank of 177 countries	0.553 (133 rank)	0.536 (129 rank)	No ranking (but estimated at 0.276 by UNDP, 2004)[10]	0.491 (152 rank)	0.790 (70 rank)
HDI trend (1975) (1985) (1995) (2004)	 0.425 0.488 0.553	 0.536 0.545 0.583		 0.465 0.533 0.525 0.491	 0.664 0.710 0.745 0.790
Life expectancy at birth (years)	55.1	56.5	42.5	47.5	72.6
Adult literacy rate, %	31%	73.6%	No data	73.6% [11]	92.8%
Population living under 1 USD / day, % (& number)	27% [12] (1990-2004) (1.6 million)	34.1% (4.7 million)	76.2% [13] (2.5 million)	22.8% (7.6 million)	7% (3.1 million)
People with access to improved water supply	51%	41%	52% rural 72% urban 61% total [14]	47%	93%
People with access to improved sanitation	30%	17%	7% rural 49% urban 27% total [15]	43%	86%
Unemployment rate – formal sector			85%		

9 / Data taken from UNDP Human Development Report 2006, which uses data from 2004, unless otherwise noted.
10 / UNDP (2005) Annual Report
11 / In Mandera district, which is a dryland district (arid and semi-arid), the literacy rate is estimated at 33% (male 48% and female 18%) and had an HDI of 0.3246 (in 1999). Most of the dryland districts have the lowest HDIs in the country, with Turkana having an HDI of 0.2455 (in 1999) – Ref: UNDP (1999) Kenya Human Development Report.
12 / The same reference notes that 74% of the population of Lao PDR lives under 2 USD / day.
13 / UNDP (2005) Annual Report
14 / UNICEF data at a glance from the UNICEF website
15 / UNICEF data at a glance from the UNICEF website

The four country contexts have quite large differences in terms of their HDI, life expectancy, literacy levels and other indicators The HDI varies from a non-rank for Liberia to 70 out of 177 countries for Colombia. When comparing the percentage of people living under 1 USD / day, Colombia has more people in real terms (3.1 million with the 7% of its population) than Liberia (2.5 million with the 76.2% of its population) living under the 1 USD / day limit, but the difference is that a large proportion of the country lives over 1 USD / day in Colombia whereas in Liberia the majority lives under this limit. Communities in Liberia and Colombia also face different challenges.

EXAMPLES OF CHALLENGES TO SUSTAINABILITY (DUE TO THE VULNERABLE CONTEXT)	
Lao PDR / Cambodia	• Relocation of communities from mountain areas to areas nearer roads (not always voluntary). • Difficult to estimate population numbers due to displacements. • Deforestation and its impact on water sources / laws exist but are not followed. • 120 languages in Lao PDR, many women not literate. • Locations are remote and hence more difficult to access spare parts. • 120 languages in Lao PDR, many women not literate. • Locations are remote and hence more difficult to access spare parts.
Liberia	• People are very poor. • People trained in the maintenance of handpumps may have been displaced or killed in the conflict. • Community structure and trust may have been broken down by conflict and displacements. • Community dynamics are more complex in urban areas and people less likely to follow project rules. • Literacy is low which can add additional challenges for the training of hand pump mechanics. • The fluctuation in and out of conflict meant that in the past not all projects were constructed well as teams had to leave areas in a hurry. • Tools were stolen during the war. • Very high level of SGBV during the conflict.
Northern Kenya	• Changing lifestyles, traditions and relationships within pastoral society. • Large gender and other power differences within communities. • Communities with mixed clans may have less social cohesion. • The cooperation or otherwise of the community Chief can impact on projects. • Repetitive droughts and floods have diminished families' coping capacities. • Repetitive droughts can put additional pressure on the boreholes and water infrastructure. • Dependency syndrome. • Limited water resources. • Limited literacy, lowest literacy levels for women. • Environmental degradation of the land and trees / plant coverage. • Risk from conflicts over water and other resources.
Colombia	• Community leadership targeted by armed actors. • Displacement following violence and massacres. • Limited or no involvement of the Government of Colombia and local authorities in the rural areas. • Some Government officials, for examples Mayors who head up Municipalities (covering urban & rural) may have links with the paramilitary armed group. • It is challenging to remain neutral with respect to funding when an organisation needs funds to support communities and money is being offered, but it is not clear whether the funds originate from an illegal source. • Many displacements to the urban areas where community dynamics are more complex. • Land ownership can cause challenges to sustainability of water supplies when the landowner cuts down trees around a community water source.

It is crucial to understand what the particular challenges are which communities and institutions face in each context when designing programmes, as these will have effects on resultant sustainability.

A.1.2.4 Factors affecting sustainability

A range of studies have been undertaken which highlight a range of factors which influence sustainability. Key factors for sustainability of WASH interventions include[16]:

EXTERNAL FACTORS	INTERNAL FACTORS (WITHIN COMMUNITIES) OR AFFECTED BY PROJECT DESIGN
1. Legislation, policies & political support. 2. Efficiency of intermediate level actors – Govt, NGOs, private sector. 3. Availability of donors or funding sources. 4. Availability of spares and materials. 5. Standardisation of approaches across the sector. 6. Water resource availability. 7. Risks from natural disasters, conflicts & vulnerability.	1. Quality of leadership in the community. 2. Gender divisions, inequity & social cohesion. 3. Management capacities, baseline skills, education & capacities and an effective management system have been developed. 4. Existence & enforcement of rules. 5. Community sense of ownership & legal ownership. 6. Community commitment to the project, willingness & ability to pay for the capital costs of the project. 7. Existence of an effective management system for O&M and financing O&M. 8. An effective mechanism for collecting and managing funds for recurrent costs. 9. The community has the willingness & ability to raise money for major rehabilitation or replacement. 10. Appropriate service level & technology. 11. Systems appropriate to livelihoods. 12. Environmental sustainability.

Other factors which influence sustainability as highlighted by various researches have included:

- The demand of the communities – which will influence the ownership of the project and willingness to sustain it over the longer term.
- Opportunities for communities to choose the service level based on an 'informed choice' – this will influence the community's sense of ownership of the project and will ensure that the project meets the communities needs at this point in time.
- The presence of project rules (or the way projects work with and involve communities).

Section B.1 discusses each of the key factors noted on the table above and provides examples from the field to elaborate both challenges and examples of good practice.

Refer to the references in the section of 'Bibliography of useful references and research' for a number of useful studies on sustainability, or on undertaking O&M audits.

16 / Adapted starting from the key factors identified by Schouten & Moriarty, 2003, and modified following considerations in the four field work contexts of this research.

A.1.2.5 Strategic implications of aiming for sustainability

There are a number of implications if organisations are serious about working towards the longer term sustainability of WASH. These include, but are not limited to:

- Programmes should be continued over several years including back up support – if initial programmes are short, and then follow up programmes should include back stopping visits and continuation of hygiene and sanitation aspects.
- More time needed to understand community dynamics and to work with communities to respond to particular issues.
- Offering options for projects with differing service levels which the communities select themselves.
- Considering options for community management and hence the need to develop the organisation's staff and skills – is management by committee always the best solution?
- Staff should be recruited for as long periods as possible – a high turnover of staff has implications for continuation of support to communities, loss of historical memory, less ability to build relationships with the authorities and hence to work on institution building issues.
- Projects will cost more per unit input initially for project implementation – although this is a false economy when considering: the implementation of projects which only last for the shorter term which then need to be repeated every few years; versus implementing a lower number of projects over the longer term which are sustained where the cost in the long run is likely to be less.

A.1.3 DISENGAGEMENT STRATEGIES

A.1.3.1 Definitions of disengagement strategies

A 'disengagement' or 'exit' strategy is a strategy or plan which designs how a programme will end, or for withdrawal of the organisation or the organisations resources from a project or programme area, so as to assure the programmes goals are not jeopardised and the benefits continue over a longer period.

Exit strategies should be considered whether or not it is expected that needs may continue, or increase, as an exit strategy can also be thought of as a **'Sustainability Plan'** or **'Sustainability Strategy'**[17]**.** Exit strategies have inherent benefits irrespective of timing or context and are **not to hasten the exit** (exit is valuable for its own sake), but to improve the chances of sustainable outcome for the programme. Exit strategies should be considered from the start / early on in the programme life.

A.1.3.2 Levels of disengagement strategies

Disengagement will be needed at some point from:

- **Projects** – because they are completed.
- **Programmes or programme areas** – because other areas have greater need.
- **Countries** – because it is decided that the particular country does not have as many needs as another country and hence the resources redistributed.

Disengagement should ideally be:

- A planned process of phase out
- A planned handover

But sometimes, disengagement happens for other reasons:

- The security situation worsens (ACF Kandahar 2003, ACF Sri Lanka East 2006)
- Lack of funding
- Getting outside of the agencies mandate or charter (e.g. ACF North Korea 1999, ACF Iraq 2003) or the impossibility to work due to political pressure (ACF Sri Lanka 2007)

17 / Gardner, A, Greenblot, Joubert, E (2005) 'What We Know About Exit Strategies, Practical Guidance for Developing Exit Strategies in the Field', C-SAFE, A Product of the C-SAFE Regional Learning Spaces Initiative, Sept 2005 (CARE, CRS, World Vision, ADRA, USAID

The country programme should have an exit strategy from the country or programme areas / regions of the country, even if it is considering staying for a number of years. If an organisation is serious about ensuring sustainability of its WASH interventions, the question of who will remain behind after the organisation departs to be able to provide back up support to the communities the agency worked with, or who will continue expanding the work of in the agency to new areas, must be considered early on in the country programmes strategy.

Refer to Section A.3.2 for information on good practice relating to disengagement strategies.

A.2 CONSIDERING POLICIES & STRATEGIES

A.2.1 WASH SECTOR COUNTERPARTS

Linking relief, rehabilitation and development (LRRD) is a concept that has been discussed to different degrees for decades. However, the learning on LRRD and the practicalities of linking the various stages and working in vulnerable contexts has varied and there is still limited practical guidance or agreement on how best to bridge the gap, or to work in the Contiguum contexts where several different contexts exist side by side.
A number of lessons have been identified in the coalition evaluation of the tsunami response, which are useful to reflect on when considering the place and overall aims of LRRD or working on sustainability in vulnerable contexts.

Links between relief, rehabilitation and development in the tsunami response [18]
Conclusions and recommendations:

- LRRD must be more firmly rooted in national and local contexts and processes.
- Links between relief and rehabilitation have been achieved, but greater attention needs to be paid to the implications of programming for longer term development.
- For poverty alleviation, interventions need to be better related to ongoing trajectories.
- More consideration needs to be given to reducing risks of natural disasters, and anchoring such strategies within national structures or social protection.
- Links to the LRRD efforts of affected populations should be improved through strengthened information flow.
- Links between policies and programming should be made by sector and through support to national and household efforts to bring together relief, rehabilitation and development.
- LRRD is best served by greater transparency about who is able to do what, and when.

Some things to think about…:
What is LRRD?:

- 'LRRD is inevitably a hollow concept if it does not encompass a process by which links are made between the international community and the host state and local civil society'.
- 'From an LRRD perspective, a fundamental measure of progress is whether the international community is able to 'hand back' the duty to uphold the rights of the disaster-affected population to local and national authorities'.
- 'The overall implication for the future is that there is a need to break out of the project-focussed concentration on aid provision in order to acknowledge that the most significant links between relief, rehabilitation and development are those that are made by the affected populations themselves and by the national public and private institutions on which they depend for jobs, services and human security. The people affected by the tsunami are getting on with their lives regardless of the sometimes chaotic and ill-conceived programmes of the aid community'.

18 / Christoplos, C (2006) 'Links Between Relief, Rehabilitation and Development in the Tsunami Response, A synthesis of initial findings', London: Tsunami Evaluation Commission

LRRD, links with local governments and authorities and politics:

- 'More strategic coordination is essential as rehabilitation and development efforts come to the fore, as sustainability is ultimately reliant on harmonisation and alignment with government and within the aid community'.
- 'LRRD is inevitably a political process. Politics may be an inconvenience for aid programming and may have many detrimental impacts; it creates a range of dilemmas in relation to maintaining humanitarian principles. But it is also the foundation for moving beyond relief. Rather than by-passing the political struggles over aid resources, it is important to ensure that affected populations have the information and knowledge through which they can influence these processes'.
- 'The most fundamental LRRD gaps are not between relief and development agencies (even if these gaps still exist). Genuine LRRD requires attention to how to align and harmonise programming with national actors, be they the government, civil society, private sector or the affected populations themselves. The weaknesses in national and local institutions are immense, so alignment may have to be a protracted process, but the overall direction needs to be maintained'.
- 'Many key decisions in the recovery process are and should be political decisions. The interface between aid and these political processes is a grey area in LRRD'.

Information flow and the needs of the vulnerable:

- 'Poor information flow is undoubtedly the biggest source of dissatisfaction, anger and frustrated among affected people. They are confused, misinformed and ignorant about aid plans and government regulations. They are torn between inflated expectations and disillusionment'.
- 'The TEC LRRD reviews found that very few agencies have paid much attention to the rights of these affected people [the elderly, the disabled and other groups not effectively reached by standard programming modalities'] to assistance that meets their needs and builds on their capacities'.

Capacity of staff:

- 'Many agencies have attempted to apply standard participatory methods for community planning but the complexity of these processes where different interests need to be considered, negotiated and reconciled frequently exceed the skills of the agencies involved'.
- 'A critical determinant of whether LRRD translates from policy to practice in a major emergency will be whether key staff responsible for managing agency responses understand what is entailed in linking their relief, rehabilitation and development activities both in terms of day-to-day management and also respect to overall vision. This requires an ability to look beyond individual projects or needs to assess wider relevance and sustainability'. 'The calibre of field-management is crucial'. 'A number of respondents in the Policy Study commented that agencies ability to engage effectively in LRRD is dependent on having mature, experienced personnel who can 'keep their heads' and focus on the strategic while responding to the urgent'.
- 'This evaluation found no clear correlation between agencies with well-considered policies in relation to LRRD and similarly well-considered LRRD programmes and operational modalities. The quality of policies is in many respects secondary to the ability of the staff in the field to conceptualise how their programmes relate to the wider context. Albeit anecdotal evidence in both Aceh and Sri Lanka indicated that success was related to the extent to which agencies were able to deploy staff with the skills and confidence not just to implement their own programmes but also to maintain strong communications with other actors, especially local government, the UN and NGOs'.

A.2.1.1 Donors

A range of donors were met as part of the research and documents studied, and it was found that attention to sustainability and disengagement varied in the organisations met and policy documents studied.

Principles and Good Practice in Humanitarian Donorship:
General principles:

– 'Strengthen the capacity of affected countries and local communities to prevent, prepare for, mitigate and respond to humanitarian crises, with the goal of ensuring that governments and local communities are better able to meet their responsibilities and co-ordinate effectively with humanitarian partners'.

– 'Provide humanitarian assistance in ways that are supportive of recovery and long-term development, striving to ensure support, where appropriate, to the maintenance and return of sustainable livelihoods and transitions from humanitarian relief to recovery and development activities'.

Donors approaches to LRRD and sustainability of WASH in vulnerable contexts in overview:

- The donors who have made an effort to link relief, rehabilitation and development, are still clear that their first priority of humanitarian aid is to save life, but that wherever possible that they also will make efforts to ensure that the benefits of the projects are sustained beyond the life of the projects – it is 'added value' as noted by one donor.
- Most attention is being given to the issues surrounding LRRD & WASH and looking for practical solutions by ECHO / Water Facility / EC, with particular effort by ECHO who often has to cover the support for intermediate stages.
- The ACP-EU Water Facility is increasingly being seen as being able to bridge the gap between the needs based project focussed ECHO programmes and the sector wide EC programmes which are aligned with government priorities.
- Several representatives of different donor organisations confirmed that they would support (and in some cases noted to pro-actively encourage) applications for funding for back-stopping and follow up support to communities whose projects were supported under previous funding, even when the funding had not been from their own organisation. Representatives of one donor notes that they will be prepared to support less people (per unit of funding) if it is explained well as to the reason why.
- Some examples of good practice of donors of supporting LRRD in WASH programmes:
  - DFID in Liberia - through 3-5 year funding of a coalition of INGOs as a post conflict programme, which incorporates capacity building of government as well as standardisation of project approaches and has the engagement of the donor, the government and UNICEF on the Board.
  - SDC in Colombia – supporting on-going projects using humanitarian funding with the same communities over a number of years and insisting on the organisations it funds working with government to help support improved governance for longer term impact.
  - OFDA to USAID transition (in the health sector) in Liberia – with a transition of OFDA to USAID funding for continuation of support to health infrastructures.
  - ECHO and EC in Lao PDR – supporting reducing numbers of new projects and increasing numbers of follow up activities in successive programmes and a switch from shorter ECHO to longer EC funding.
  - ECHO and EC – supporting specific LRRD focussed workshop events with sector stakeholders in transitional contexts.
  - EC in Liberia – open to joint collaboration between NGOs and the Government of Liberia (possibly through joint projects for funding which would include a contribution to capacity building through joint working, mentoring or other) to help 'consolidate' the efforts of the larger donors.
- Highest attention for DRR and the link this has with sustainability, given by DFID and the EC.

- USAID – notes a commitment to sustainable programmes, that it links emergency activities with transition and development programmes, that it incorporates institutional partners for planning for the transition, and that they emphasise local capacity building in all projects to enhance sustainability.
- Whilst DFID acknowledges (briefly) in its humanitarian policy that the links between humanitarian, developmental and political action remain weak and poorly understood which limits efforts to address the root causes of poverty, it also adds a note of caution that 'We recognise the need for caution with respect to efforts to link the provision of social protection and basic services with state building in these difficult environments [where the Governments do not support a pro-poor agenda]. This risks compromising the neutrality and impartiality of humanitarian assistance, and access. Equally, we will are [sic] sensitive to the risk that poorly planned assistance, including humanitarian aid, can undermine the formation of effective states. Balancing these risks requires careful analysis at the country level'.
- Several donors mention only briefly, possibly in a single paragraph in a multi-page policy document, an element of the considerations related to the LRRD process:
  - AFD – Does not specifically mention emergencies or DRR in its 2007-2011 strategic plan, but aims to increase its activities to combating climate change, protecting diversity and public health.
  - CIDA – Notes that whilst emergency welfare is its main aim of its short term responsive funding, that it will also strive to assure the links between relief and recovery and that results can be sustained beyond the lifetime of the project.
  - DANIDA – Notes the importance of reducing vulnerability to drought.
  - SIDA – Mentions the importance of avoiding potentially damaging gaps between humanitarian action and long term development and mentions with regards to humanitarian assistance in emergency situations the importance of integration of services into existing, local institutional frameworks.

Internal debates and challenges to supporting effective LRRD approaches:
The representatives of donor organisations met who have shown an understanding of a range of issues surrounding LRRD and working in vulnerable contexts, and have shown a commitment through examples in their programmes on the ground; still note the following challenges internal to their own organisations:

- Mixed options within the humanitarian sector staff over whether humanitarian funding should be spent on longer term issues such as sustainability, or increasing governance, some preferring to focus only on the acute events, which are much clearer in their life saving goal.
- Challenges from the development sector not making the effort, as of yet, to enter into the transition between the humanitarian and development contexts – with much of the effort for supporting the transition still remaining with the humanitarian sector.
- Getting an increased attention to DRR in development programmes[19].

It was also noted by other sector actors that the commitment to supporting LRRD activities and getting away from the requirements of donors wanting large numbers of people supported with limited funding, still tended to vary depending on the individual person in post at the time in a particular location and their own interpretation of their organisations policies.

19 / For example, the International Development Committee (which advises the British Government) prepared a recent report on the impact of DFID's efforts in water and sanitation following a field visit to Ethiopia. But they did not really acknowledge the Ethiopian context of repeated disasters and the impact this has on development in a significant way. There is a comment related to climate change that 'The impact of climate change on water availability will not only obstruct people's right to water but could impede economic growth and concomitant poverty reduction: In Ethiopia, a single drought episode can cut growth potential by over 10% over an extended period, as the country's economic growth and development are closely tied to rainfall'. But the link is not discussed in a significant way in proportion to its impact. The report does not mention the link between the humanitarian and development sectors in its section on the 'inter-sectoral dimensions of sanitation and water', in a country where repeated emergencies severely constrain developmental efforts.

ECHO and the EU – making efforts to better link relief, rehabilitation and development in the WASH sector

The EC and ECHO have clearly made much effort and some progress on developing the LRRD concept and modifying their approaches than most donors (particularly ECHO), and have been engaging openly since the mid 1990s. The following are a small selection of statements, commitments and actions made by the EC and ECHO in relation to their approach to LRRD.

Commitments:

- Paul Neilson, the European Commissioner for Development and Humanitarian Aid in the Europa website comments on LRRD: 'Disasters disrupt economic and social development, and often throw countries back several years or even decades in terms of their economic development' (for example Afghanistan). 'Emergency aid can take into account longer term development issues only to a limited extent. This is why development policy, at the same time, should be better prepared to cope with natural disasters, conflicts and other crises, and the need to protect vulnerable households by helping them to develop coping strategies'… 'The ultimate goal for ECHO is that the design of emergency aid must be as consistent as possible with long-term development objectives and sustainability. On the other hand, appropriate longer-term instruments should anticipate and be mobilised in good time, i.e. way before ECHO announces and starts its withdrawal'…Where linkages are not possible due to political constraints or lack of appropriate instruments at Commission level, ECHO attempts to hand-over to the local population, such as through self-reliance projects.
- The EC has an inter-service group to discuss issues of LRRD and are lengthening contracts (from 6 months to max 18 months).
- 'LRRD will also become an integral part of the new Country Strategy Papers which are the main tools now used to programme EC assistance. Increased attention will also be paid to disaster preparedness' 20.

ECHO 'Model Guidelines for Mainstreaming Water & Sanitation in Emergencies, Protracted Crises, LRRD and Disaster Preparedness, 2005', prepared by AguaConsult for DG ECHO

Section 4.3 'Sustainability' - 'Sustainability of water and sanitation facilities is not a primary objective of ECHO and in most acute emergency situations; this may not always be a realistic option. However, there is growing acceptance that the provision of immediate relief, especially in protracted situations, and addressing the issue of sustainability are not mutually exclusive. In many post-acute emergency and chronic situations ECHO has a duty to find ways of ensuring that infrastructure lasts as long as possible, and does not negatively impact on future developmental efforts. ECHO encourages partners to adapt development type approaches to fit the one-year project cycle in order to address sustainability and to facilitate links with developmental efforts. If in chronic situations a short-term project would only focus on immediate needs, it could easily undermine internal coping capacities, worsen environmental conditions or cause conflict, exacerbating the effects of a short-term crisis. This has to be avoided at all costs'.

Examples of programmes funded with particular focus on LRRD:

- **Tajikistan** – transitional 3 year funding for LRRD by ECHO under the overall title of food security.
- **Sierra Leone** – LRRD programme – evaluation undertaken encouraging more focus on O&M, training for staff more used to working in relief activities than in development contexts, in particular trying to counter the dependency syndrome developed through years to access to humanitarian aid, a move from a supply driven to a demand driven approach, and encouragement for the partner organisations to develop follow up projects with a more developmental focus.
- **Liberia** – strongly encouraging the organisations it funds to develop better LRRD type approaches, including rehabilitation and back stopping monitoring of previous projects and only supporting the agreed standard pump for the sector, support through UNICEF to help develop standard approaches for the sector.
- **Kenya** – changing strategy to focus on drought cycle management and reducing vulnerability to drought.

20 / Web article on LRRD dated 15/5/2001 on the Europa website.

21 / Collin, B (2006) 'LRRD: An Operational Perspective from ECHO in the Water & Sanitation Sector', power-point presented at the 'Thematic Evaluation of EC Support to Water & Sanitation in Partner Countries'

An operational perspective from ECHO in the water & sanitation sector – guidelines and LRRD aspects[21]:

- **Quality of an operation** – support to integrated interventions in water, hygiene & sanitation; mixing hardware and software; good technical quality of construction.
- **Building on what exists** – rehabilitation where possible; integration of national and local standards, technical policies and strategies; avoid ad hoc creation of numerous committees.
- **Conditions for continuity** – selection of appropriate technologies; support to the setting up of O&M systems; a brief post operation follow up of the results achieved.
- **Coherence** – support to coordination mechanisms; common approaches among actors; discussion & advocacy with other donors.

Transition from camp situations - refer to Section B.1.5.2 which has built on ECHO recommendations.

Donor approaches to DRR

DFID – Reducing the risk of disasters – Helping to achieve sustainable poverty reduction in a vulnerable world[22]

DRR in the Secretary of State's Humanitarian Reform Agenda (2004)

Committed to:

(i) Increase the funding provided by DFID to international efforts to reduce disaster risk; and

(ii) Allocate 10% of the funding provided by DFID in response to each natural disaster to prepare for and mitigate the impact of future disasters, where this can be done effectively.

Encouraged:

(iii) Other bilateral donors to build disaster reduction into their development programming;

(iv) The World Bank and regional development banks to consider how disaster risk can be incorporated into Poverty Reduction Strategies; and

(v) The UN to look at how its institutional set-up could be more effective.

The goal of the DFID DRR policy:

To contribute to sustainable development through reducing the burden of disasters on the poor and most vulnerable.

It's objectives to achieve this are:

- Integrate risk reduction better into development and humanitarian policy and planning.
- Support an improved international system and strong institutions at national and regional level aimed at reducing risk in disaster-prone developing countries.
- Reduce vulnerability of the poor through building capacity and livelihood resilience to disaster risk.

The economic case for DRR:

- The costs of disaster assistance affect the development budgets of bilateral donors, International Finance Institutions and recipient countries.
- Resources are often diverted from development programmes in times of crisis.
- Decision makers, knowing that they can rely on provision of external assistance either from central government or from foreign donors, often under-invest in risk reduction.
- The IMF estimated that 'the average economic cost for each individual large scale natural disaster event was over 5% of GDP in low income countries between 1997 and 2001'.
- There is growing evidence of the economic benefits of interventions and policy choices aimed at reducing disaster risk, which has been shown through the reduction in annual damage versus GDP for small island states since the late 1970s.
- The majority of studies which have assessed the relative costs and benefits of individual disaster risk reduction initiatives have indicated high potential return rates of between 20-50%. 'A tentative interpretation of the results is that for every dollar invested in DRR, between two and four dol-

22 / Taken directly from the DFID (2006) 'Reducing the Risk of Disasters – Helping to Achieve Sustainable Poverty Reduction in a Vulnerable World: A DFID Policy Paper'

lars are returned in terms of avoided or reduced disaster impacts'.

Provides examples of good practice in DRR under the following headings:

- Sustainable institutional structures and good governance.
- Risk identification, monitoring, early warning & public awareness.
- Technical and physical risk mitigation.
- Building resilience, promotion of innovation and education.
- Risk sharing / transfer.
- Effective response and preparedness.

Other:

- 'Reducing disaster risk is not just about additional investments – it is also about ensuring that development interventions are sound. For, example, ensuring appropriate construction of critical infrastructure in highly vulnerable areas'.

Key donor policy & strategy documents referred to in this section:

AFD

- AFD (2007) '2007-2011, Strategic Plan of the Agence Française de Développement'

CIDA

- CIDA (2002) 'Guidelines for Emergency Humanitarian Assistance Project Proposals and Reports', updated version July 2006
- CIDA (no date) 'Water Management'

DANIDA

- Series of books by Erik Nissen-Petersen and colleagues from ASAL Consultants Ltd on dryland technologies.
- Nissen-Petersen, E, Madsen, B, Katui-Katua, M (2006) for DANIDA 'Water for Rural Communities, How Kenyan rural communities can create their own water supplies with assistance from the Water Services Trust Fund', Royal Danish Embassy.

DFID

- DFID (2004) 'Meeting Our Promises, A Third Update on DFID's Work in Water & Sanitation Since the 2004 Water Action Plan'
- DFID (2006) 'Reducing the Risk of Disasters – Helping to Achieve Sustainable Poverty Reduction in a Vulnerable World: A DFID Policy Paper'
- DFID (2006) 'Saving Lives, Relieving Suffering, Protecting Dignity: DFID's Humanitarian Policy'
- DFID (downloaded from the DFID web pages, April 2007) 'Conflict Reduction and Humanitarian Assistance'
- ERM (2005) 'Natural Disaster & Disaster Risk Reduction Measures, A Desk Review of Costs & Benefits', Draft Final Report, 8 December 2005
- House of Commons International Development Committee, Government of the United Kingdom (2006-7) 'Sanitation and Water: Government Response to the Committee's Sixth Report of Session, 2006-7', Volume I, HC 126-I

EU

- 'Commission Makes Proposals to Better Link Emergency Relief and Long-Term Development Policy', Ref: IP/01/705, Date: 16/05/2001, Europa website
- 'Poul Nielson European Commissioner for Development and Humanitarian Aid Linking Relief, Rehabilitation and Development: Challenges and Possible Solutions Network on Humanitarian Assistance (NOHA) Intensive Programme State University Groningen, 16 Sept 2002', Ref: SPEECH/02/407, Date: 19/09/2002, Europa website
- ECHO (no date) 'Disaster Preparedness and Prevention (DPP), State of play and strategic orientations for EC Policy, Working Paper'
- ECHO DG (2005) 'Model Guidelines for Mainstreaming Water & Sanitation in Emergencies, Protracted Crises, LRRD and Disaster Preparedness Operations'
- European Parliament (2001) DRAFT Report on the Commission Communication on Linking,

Relief, Rehabilitation and Development – An Assessment (COM(2001) 153-C5-0395/2001 – 2001/2153(COS)), Committee on Development and Cooperation, PR\446670EN
- Personal communications – a number of ECHO staff / regional advisors - sharing of internal discussions and documents on WASH & LRRD and proposed strategies – relating to South Sudan; Liberia; DP Latin America; Sierra Leone; Greater Horn of Africa, improved drought management decision

OFDA / USAID
- USAID (2007) 'Water, Sanitation & Hygiene Sector Update – January 2007'
- USAID (downloaded from the USAID pages of the internet, Aug 2007) 'West Africa Water Initiative (WAWI)'

SIDA
- SIDA (2000) 'Sida's Policy for Sector Programme Support'
- SIDA (2001) 'Sida's Policy for Capacity Development'
- SIDA (2004) 'Pure Water, Strategy for Water Supply & Sanitation', Water Division, Division for Urban Development and Environment, January 2004
- SIDA (2004) 'The Government's Humanitarian Aid Policy', Government Communication, 2004/05:52

SDC
- Web pages – **www.sdc.admin.ch**
- SDC (2005) 'Water 2015, Principles & Guidelines' (summary of the IWRM guidelines)
- SDC (2005) 'Water 2015, Policy Principles and Strategic Guidelines for Integrated Water Resource Management – IWRM'

A.2.1.2 Local NGOs, INGOs, other international organisations and the UN

Examples of policies, strategies and approaches of local NGOs, INGO, other international organisations and the UN which have implications for the sustainability of WASH:
- Some organisations work across the emergency – development divide - such as OXFAM, SC, CARE, UNICEF; others work in emergency contexts and transitional or vulnerable contexts – such as ACF-IN; and others work only in emergencies – such as MSF; or only in development – WaterAid; WSP.
- Many work in partnership with a key focus of their work on strengthening local organisations to become sustainable institutions over the longer term.
- Increasingly in many organisations national staff are being promoted to and taking on senior positions, with a corresponding reduction of international staff.
- There is still a general tendency in the humanitarian sector to focus on the simplified voluntary community committee without considering other options. But there were some examples of variation – such as ADRA in Lao PDR where they were trying modified approaches of supporting communities to have more choice (such as communities paying for household connections and paying by metered water and committees being paid a % of the metered income) and Islamic Relief supporting the improvement of a private water sellers tank in Mandera.
- Local NGOs in vulnerable contexts are struggling with no funding to cover gaps between short term contracts and are finding there are limited international organisations forming long term partnerships and committing resources for institution building of local organisations and capacity building.
- Tearfund Liberia, working alongside their local partners, AEL and Equip, over a three year period (as part of the INGO Consortium) initially start by working side by side and then gradually reducing Tearfunds inputs over the 3 year period until the Disaster Management Team withdraws from direct support on the activities.
- Concern Worldwide in Lao PDR is working in 3 phases of 3 years each for capacity building of local level government – Phase 1) preparing capacity, monitoring & facilitation; phase 2) implementing

more tasks, with partners more in the lead and Concern more in a support role; Phase 3) When the partners strengths are known, Concern only does back-stopping and the government partners can also start working in new areas.

- In Liberia an INGO Consortium supported by DFID is funding a 2 stage, 5 year programme, which includes INGOs working in partnership, implementing projects and OXFAM as one of the 5 members, providing some capacity building support to the County Health Teams (teams based at regional level which cover both health and environmental health).
- OXFAM in Kenya previously supported pastoral associations, including people from different clans, some of whom have now run the right to be a service provider under the Water Act, 2000. They are also involved in conflict resolution, along with rapid response teams which include the elders.
- UN works in emergencies and in development and transitional contexts and has a focus on building capacity of Government, but has limited staffing and capacity to fulfil its large remit. The cluster leadership approach is still relatively new and still faces many challenges and LRRD or early recovery is not yet high on the agenda for the WASH Cluster. It needs to come onto the agenda, but it may be some way down the line of priorities.

A.2.1.3 Governments

Examples of policies, strategies and approaches of governments:

- Governments are responsible for emergency and development and are responsible for developing the national policies and strategies. Some governments have specialist disaster response agencies, such as the Disaster Preparedness and Prevention Agency (DPPA) in Ethiopia but other Ministries also have responsibilities for responding to emergencies and preparedness and prevention in relation to their own sectors. The limited 'joining up' of the DPPA and the various Ministries in Ethiopia poses some challenges to ensure effective emergency responses in the WASH sector in Ethiopia, and over who takes responsibility for DRR to minimise the risks to sustainability that disasters pose in vulnerable areas.
- Some governments have specialist departments or programmes focussing on particular vulnerable or challenging areas, for example the Arid Lands and Natural Resources Programme (ALRMP) in Kenya. It is partially funded by the World Bank and is a specialist organisation working in the arid and semi arid lands through all stages of the emergency, development continuum. Refer to Section B.1.5.3 for information on the 'National Policy for the Sustainable Development of Arid and Semi Arid Lands of Kenya, April 2007'.
- It is possible that governments may allocate limited resources for DRR, aware that funds will come in from external agencies for responding to emergencies.
- Governments may have policies for a range of contexts, but often do not have sufficient resources such as vehicles, staff, finances, and sometimes policies are not filtered down to the lower structural levels of government.
- Most sustainability guidance for the WASH sector will have been written in the development context and be part of national government policies. Examples include the 'Sustainability Strategy for the National Rural Water Supply and Sanitation Programme' for Zimbabwe (revised in 2005) and the 'National Strategy for the Rural Water Supply and Environmental Health, 2004' by the Ministry of Health, National Water Supply and Environmental Health Programme in The Lao People's Democratic Republic.
- In some countries policies which include strategies for or influence sustainability are split into rural and urban and there may also be a separate strategy for sanitation. Policies and strategies in relation to water resources and to decentralisation may also have implications for the mechanisms for support for sustainability.
- Some countries are still in the process of developing their policies and strategies within the development of a new legal framework. Tajikistan as a country of the former Soviet Union is in the process of developing its own legislation, policies and strategies for the WASH sector. In 2007 there is still a significant gap as to which government Ministry or local authority department has the responsibility for supporting operation and maintenance of rural systems.
- Government policies in most countries revolve around standard accepted good practice as supported

by the World Bank and other multilateral donors. Key elements generally include:
  - o Community based management for rural areas.
  - o Increasing encouragement for private sector engagement and management.
  - o Demand, gender and poverty responsive approaches.
  - o Use of participatory approaches.
  - o Increase in focus on sanitation and hygiene promoton,.
- The Water Act, 2002, in Kenya established 'Water Regulatory Service Boards' and aims for 'Water Service Providers (WSP)' to eventually be licensed throughout the country to provide manage and operate water supplies to communities over 20 households or where the supply is more than 25,000 litres per day. The WSP can be a private operator or a community based organisation.
- Government staff may not be able to access conflict areas to support efforts for sustainability in WASH and can be absent in many rural areas, for example in Colombia or Nepal during the civil war, hence leading to a significant urban – rural divide in terms of services provided and supported for operation and maintenance.
- In 2007 in Liberia, a country in transition, there were no formal WASH policies and the government Ministries were being reformed after the long civil war. Interim frameworks, such as the 'Liberia National Transitional Results Focussed Transitional Framework', the Interim Poverty Reduction Strategy, the UN CHAP and the WASH Cluster all note some priorities related to improving the sustainability of WASH, such as developing handpump maintenance systems, establishing spare parts distribution networks, and establishing a monitoring system. Because of the significant capacity gap left by the long civil war, the process of sector reform and development of government capacity is likely to take a long period of time and will need continued support from external agencies during the transition for some time. An effort was made supported by ECHO and led by UNICEF to develop a 'Water and environmental Sanitation (WES) Sector Framework, 2004' as an initial step to the development of sector policies, but as of 2007, this framework had not been fully adopted by sector stakeholders.

Whilst capacity building of governments is not the main remit of the INGOs working in vulnerable contexts, they have a contribution to make, particularly in helping to complement the efforts of the large donors, by being on the ground, having the resources and staff to undertake good quality projects and hence providing capacity building opportunities for government staff, and also through their recognition of the responsibilities and role of Government.

A.2.2 ACTION CONTRE LA FAIM INTERNATIONAL NETWORK (ACF-IN)

A.2.2.1 Sustainability and disengagement vs. ACF-IN mandate and policies

ACF-IN areas of intervention [23]

ACF-IN intervenes in the following situations:

- In natural or man-made disasters that threaten food security or that result in famine;
- In situations of social/economic breakdown, linked to internal or external circumstances that place groups of people in extremely vulnerable positions;
- In situations where survival depends on humanitarian aid.

ACF-IN brings assistance either during the crisis itself through emergency interventions, or afterwards through rehabilitation and sustainable development programs and intervenes to prevent certain high-risk situations. ACF-IN also works in situations of social / economic breakdown and brings assistance after crises through rehabilitation or sustainable development programmes.

23 / AAH-UK website

The ACF-IN Water, Sanitation & Hygiene Policy 2006 and the ACF-IN Technical Policy specifically mentions to plan and develop programmes with the longer term sustainability. ACF-IN is a humanitarian organisation which also works in transitional and vulnerable contexts. Its programmes should be designed to enhance the chances for longer term sustainability.

Extracts from the ACF-IN, Water Sanitation & Hygiene Policy, 2006 [24]

Sustainability:

- 'Sustainability refers to the likelihood of the continuation / maintenance of structures or initiatives created, or inputs distributed, during the project, beyond the lifetime of the project and is key to whether a project will achieve a wider and longer-term impact'.
- 'Replicability of activities is a component of programme sustainability'.
- The strategy emphasises the consideration of the following in programme design as well as sustainability as a consideration on its own – Impact; Appropriateness and relevance; Coherence; Coverage; Efficiency; Effectiveness; Cross-cutting issues – all of which will have an impact on the resultant sustainability.

Exit or handover strategy:

- This will depend on: achieving satisfactory coverage meeting the needs, achieving (or returning to) a state of self-reliance (at the level of the community or the local authorities), the presence of other actors able to make the programme sustainable.

Modalities of the interventions linked to water and sanitation projects:

'ACF-IN will dedicate its resources to obtain a project with a strong and measurable impact, relevance / coherence, appropriateness, coverage, efficiency and effectiveness and with a long viability (sustainability)' [25].

The ACF-IN Technical policy (June 2006)

This document also refers to sustainability and exit strategies:

- 'The participation of the affected communities in the different phases of the programme is essential; it reinforces the relevance and sustainability of actions in relation to needs'.
- 'Our actions must therefore reinforce social organisation and cohesion through a communal approach in the given cultural context and emphasise the building of community capacity'.
- 'The evolution of the response must be planned with long term sustainability in mind'.
- 'ACF-IN must set up an exit strategy with clear indicators for disengagement involving different possible scenarios - at the earliest stage possible in the development of the programme - either by integrating its activity within the national structures or by strengthening local NGOs', private companies, and or communities' capacities'.

A.2.2.2 General ACF-IN approach and field practice

The following table provides an overview of the ACF-IN practice in 2007 as identified during the research, in relation to sustainability. ACF-IN has made significant effort to try and enhance the chances of sustainability in their projects. Different projects visited highlighted a range of good practice as well as highlighted areas where improvements can be made.

23 / AAH-UK website

24 / The ACF-IN policies contain a number of references throughout – the statements noted here are a selection from a range.

25 / Except in the case of an emergency response.

ACF-IN CASE STUDY: EXAMPLES OF FEATURES WHICH MAY HAVE POSITIVE OR NEGATIVE IMPACTS ON SUSTAINABILITY		
CASE STUDY ACF-IN 2007	**EXAMPLES OF STRENGTHS** (in relation to practices which will positively influence sustainability)	**EXAMPLES WHERE IMPROVEMENTS CAN BE MADE** (in relation to practices which will positively influence sustainability)
HR, MANAGEMENT & STRATEGY	• Committed staff who aim for good quality projects • Undertaking an internal learning activity re working in partnership – to take ACF-IN forward in this area • Strategy already confirms the inclusion of sustainability to be considered as an integral part of ACF-IN projects • More effort being put into supporting the capacity building of local staff to take on senior posts	• Approaches in the field are influenced by the approaches at HQ level (which are different) – for example ACH is stronger in working with governments and on more developmental approaches. • Time limited contracts for staff / volunteers – ACF France contracts limited to 1 year • High turnover of staff – linked to salaries, short contracts • Documentation at handover – is not methodical and good information is lost • Reliance on expatriates for senior jobs • Limited career progression opportunities for local staff • Limited programmes working through long term partnerships • 1 year strategies
OVERVIEW OF PROJECTS	• Standardisation of approaches – helpful in relation to the high turnover of staff • Management of the water facilities is considered from early on in the project cycle • Training is provided to committees, village mechanics and village hygiene promoters • Generally good quality construction • Government and local authorities are kept informed of the work of ACF-IN and occasionally staff secondments occur • Standardisation of handpumps with the national recommended standard • Use of national materials for hygiene promotion where available • Learning transition is sometimes visible in the way programmes have evolved over time	• Over-simplification of communities and limited effort put into understanding community dynamics • Over-reliance on the community voluntary committee model for management without consideration of options • Support to communities is often time-bound and often limited to one short project only without back-stopping support • Some engagement with the local authorities and government departments (but limited) • Limited choice for communities on projects & level of service offered • Support to communal latrines in urban and rural settings with limited acknowledgement of the challenges to maintenance
LAO PDR / CAMBODIA	• 3 year strategy • Small numbers of new villages, larger numbers of follow up villages • Technical staff and translators recruited full time for work with minority villagers	• Limited work on protecting the spring above the source • Only two maintenance volunteers and two health volunteers per village • All male field teams in the Moung Long

LAO PDR / CAMBODIA	• Excellent documentation of technical subjects refined by ACF (GFS) • Excellent CD example for handover at end of programme (Mondolkiri, Cambodia) • Choice of low maintenance technologies wherever possible • Setting up of the village health revolving funds through the selling of mosquito nets • Cambodia – 20 step approach to standardise working processes • Formation of Teuk Saat as a local NGO from ACF staff – still operational 10 years later • Hygiene promotion work involves repeated activities in the villages over time • Exit strategy has been documented for project proposals from transition from 1 year projects to 3 year projects and capacity building communities	programme 26 • Some confusion over what the water and health committee is and their responsibilities –responsibilities are clearer for the VHV, VTV and community leadership committee • Lack of availability of handpump spares – for the older villages • Recommending of boiling water for 15 minutes • In Lao PDR implementing directly and not through local partners • Some engagement with government at different levels, but limited involvement in programmes (except in hygiene promotion)
LIBERIA	• Training of 5 village pump mechanics in each village & similar number of hygiene promoters • Require raising a sum of money for maintenance before the project is approved for implementation • Supporting the development of a spare parts supply chain (although still work is needed to make it sustainable) • Train community leaders in good hygiene practice – religious leaders, teachers, village leaders • Women and men active in committees & women often have the treasurer role • Repeated work in the same communities – during the war and then again after the war for rehabilitation and re-training	• Back-stopping to old villages was not part of the programmes strategy (although some has started to be undertaken) • Spare parts chain is not yet sustainable (still has ACF as part of the chain) • Limited engagement with the local authorities to encourage back-stopping occasional support (this is limited to County / regional level) • Community latrines were supported in urban areas and now full and abandoned • Household latrines being supported for groups of households rather than single households • Lack of consistency between management models for water projects by different organisations in the same peri-urban areas • Currently no formulated exit strategy
NORTHERN KENYA	• Generally supporting simple technologies (ponds, birkads / underground tanks) • Rehabilitating existing facilities rather than building new • Have had some successes re gender in a difficult context, in involving women as well as men in cash for work and some projects • Hygiene promotion activities undertaken weekly over the whole project period in every village • Latrines supported are household latrines,	• Not enough discussions before the programme is implemented on O&M, finance, problem solving mechanisms and the amount it is possible to earn • Limited knowledge on the complicated community dynamics in pastoral societies in transition – need to reconsider if the voluntary community management models is the most suitable for communities in this area • Links with the government departments have been made but could be strengthe-

26/ Note that this changes over time. It is also challenging to keep female staff working for long periods of time in the remote project areas.

	supported only with a small subsidy • Local masons involved in making the slabs and are paid for by the householder • Started to follow up with previous communities • Supporting projects with existing / established community groups • Considering the different links in the chain in urban supplies, including working with donkey cart owners • Links with the community leaders and government staff at division level are good	ned involving them more in the projects and project processes • Implementing directly and not through or with local partners • Design of latrine slab – footrests in poor position and no cover for hole – will result in flies and possibly people will be less willing to use over the longer term • Not all projects were trained sufficiently in O&M (for various reasons – the team will be revisiting) • Currently no formulated exit strategy
COLOMBIA	• Continuing to work with some communities over a long period of time – from initial displacement, to resettlement, to rebuilding their livelihoods • Sometimes work in partnership with local NGOs who have continued on the ACH projects • Sometimes work in partnership with the local authorities for cost sharing • Working with communities previously neglected by government, then attracting the attention of government and leading to their continued support • Integrated projects in schools for multiple benefits – toilets with hand-washing, water, kitchens & restaurant area, farm and income generation • Rehabilitating existing systems and connection to existing sewer systems where available • Bathroom / toilet combinations for individual households • Water Committees are formed as a substructure of the Communal Council – the lowest level of government structure at community level	• Pipes above ground constructed with PVC pipes which will need replacement more regularly than the equivalent GI/GS • Latrines / bathrooms provided free of charge (although those seen were well looked after) • Not clear in one case as to who is responsible for maintenance of a pump which was initially installed for use by a community kitchen on initial displacement • Currently no formulated exit strategy

A.3 SUMMARY OF GOOD PRACTICE AND TOOLS

A.3.1 MANAGEMENT STRATEGIES WHICH INFLUENCE SUSTAINABILITY

The mandate, policies, strategies, operational procedures and the organisations working philosophy will all influence the way an organisation operates and in the effectiveness of the impact it will have on the ground over the longer term and in relation to sustainability.

Recommendations to agencies for management strategies & approaches which have an influence on longer term sustainability of projects:

1. The agency will ensure a standard system for handover and identify the key information which it will retain for capitalisation and for easy access.
2. Annual audits will be undertaken of WASH equipment and clear records will be kept on which equipment can be handed over at the end of the programme and to whom and any restrictions.

3. Where possible a CD will be produced at the closure of each programme with key documents as identified in the requirements for handover, which will be stored at head office as part of a library resource for later use.
4. Apart from periods of acute emergency the agency will aim to recruit staff and volunteers for periods of a 2 years minimum (even if the contracts are still set at 1 year). Priority will be given to staff and volunteers who intend to commit in one location for a 2 year period or longer.
5. Local staff who have shown competence and commitment will be trained to take on more senior posts, including in areas such as proposal writing and engagement with donors and become the local programme manager everywhere it is possible.
6. Key WASH staff will be involved in discussions and meetings with donors alongside the Heads of Missions to be able to engage effectively on WASH issues and fully understand opportunities and donors approaches and limitations. Such discussions should not be undertaken by Heads of Missions in a management role only.

Working in partnership / collaboration:

- The agency should always aim to work in partnership with other organisations rather than implementing directly, either usually through local NGOs or the Government, but this can also include the private sector, or other sector stakeholders.
- There will be different levels and types of partnership / contracting:
  - o **Implementing partner (possibly a local NGO) with a formal MoU** – with a joint aim, clear objectives and a capacity building input – both technical and institutional – with the agency as a 'programme supporter' and an 'institutional supporter' [27].
  - o **Formal reporting to and engagement with Government at national, provincial and district level –** ideally to be a formal partnership with MoU to encourage longer term support to communities with whom the agency and partners engage.
  - o **Collaboration and networking with other sector organisations** – occasionally on projects, but often sector wide issues.
  - o **Coalitions –** more formal working with other sector organisations with clear inputs and often shared resources.
  - o **Contracting –** to private sector or a local NGO (not a preferred method of partnership / collaboration with LNGOs) – with distinct tasks and outputs and limited capacity building support.

Situations where partnerships may not be so appropriate include in the immediate stages of an acute on-set emergency and where marginalised groups are being targeted by Government. Particular care is needed to ensure quality of work when working in partnership.

Particular project and programme related issues for project design are covered in Section B-1 with tools in Section B-2. This section covers specific strategic institutional issues outside of programme design.

A.3.1.1 HR & staff turnover

Continuity, commitment and capacity of staff

The continuity and commitment of staff with the capacity to undertake both humanitarian and transitional projects in vulnerable contexts can affect:

- Institutional memory of particular approaches and challenges facing communities.
- Relationships with partner organisations including local authorities, the Ministries and decentra-

27 / Brehm, V. M. (2001) 'Promoting Effective North-South NGO Partnerships; A comparative study of 10 European NGOs', may 2001, INTRAC

lised departments and local NGOs.
- Ability to move from supply driven to more demand driven or participative approaches, with more of an understanding of the community dynamics and how they influence project outcomes.
- Reduction in fluctuation of different approaches supported by different individuals leading to a risk of instability in the programme each time there is a changeover.

Moral

Staff moral may be affected by:

- The feeling of being valued by the organisation.
- The salaries in comparison to other organisations undertaking equivalent work.
- Opportunities for training and skill development.
- Opportunities for career progression.
- Team spirit and sense of achievement through seeing an impact from the work.
- High turnover of international staff who are often younger than senior national staff, but taking on more senior positions.

National & international staff

The issue of employment of international staff and volunteers versus national staff for senior positions, the salary levels versus other international organisations and contract lengths, are all pertinent issues for the agency.

National staff may bring to the organisation – a longer term commitment, an understanding of the local context and cultures, ability to communicate directly with local communities, authorities and others, institutional memory, skills and experiences from other programmes and organisations working within the country (or sometimes external as well).

International volunteers and staff may bring to the organisation – enthusiasm, energy, a fresh perspective, new ideas and experience from other international contexts, an ability to stand back from local cultures and customs to ensure accountability (where this may be an issue).

Length of contracts

Case study ACF-IN

In 2007, international contracts within ACF-France are generally between 6 months to 1 year with occasional contracts to 18 months, depending on the length of the funding contract (but if there is a 3 year funding, the contracts are still not extended past 1 year). The rationale for remaining with 1 year contracts by ACF France is noted as being related to both project funding limits and the employment laws in France which mean that it is very difficult if it is needed to ask someone to leave a post if the contracts are longer then 1 year[28]. ACF-France has a range of different contracts for National staff, some time bound up to a maximum of 24 months and others which are indefinite.

The challenge however for ACF- France is that by having only short contracts and showing only limited commitment to volunteers and staff, it is less likely that the volunteers or staff will also show a longer term commitment to ACF. Funding may only be available as part of time limited projects but it is usual to have projects back to back over a number of years, so it is recommended that consideration of longer term contracts should be given more attention, even if it means having a probationary year or six month period, which is included in most employment contracts. ACF France provides training opportunities and an anniversary bonus, which contributes to recognition of a volunteer or staffs contribution to the organisation. Note that international contracts for ACH (Spain) can be for longer periods, including open ended for some senior positions.

28 / The ACF Handbook for Volunteers notes that status of a 'National Solidarity Volunteer' in France is for nationals of the EU who have a signed a contract for a minimum of 1 year. The Terms and Conditions in the handbook also gives ACF the right to short cut, with or without notice, an agreement with a volunteer including where the Mission has to be discontinued or due to lack of funds or if the volunteer no longer corresponds to the specific needs of the programme.

Case study ACF-IN
Some effort is being made to support the employment of local staff and their capacity building where appropriate to be able to take on long term posts (some ACF-IN examples seen in Lao PDR, Kenya and Colombia) and this should be continued across country programmes.

Capacity of staff to undertake projects in emergency and transitional contexts
The methodologies used in acute emergency situations are often supply driven; involve participation, but often to a limited degree, and community contributions tend to be limited. In development contexts approaches should be aligned with national policies, there is a high level of involvement of communities throughout the project process, projects tend to be over a longer time frame and communities are usually expected to make significant contributions to the project. The Tsunami Evaluation Coalition questioned whether staffs of humanitarian agencies really have the capacity to undertake the requirements within linking relief, rehabilitation & development (LRRD) particularly for major emergencies. 'The calibre of field-level management is crucial. A number of respondents in the Policy Study commented that agencies' ability to engage effectively in LRRD is dependent on having mature, experienced personnel who can 'keep their heads' and focus on the strategic while responding to the urgent'[29]. Providing conditions which will retain experienced and capable staff will contribute to the overall improvement in the capacity of staff, along with provision of appropriate training and learning opportunities, through secondments to development organisations or other organisations known to have good practices, to compare approaches.

Examples of good practice:
1. Longer contracts for international staff (ACH-Spain).
2. Where the contract length for international volunteers and staff is at 1 year maximum, specific programmes are recruiting with the aim to recruit staff for longer than 2 years and use of the volunteer or staffs willingness of this as criteria for selection (ACF Lao / Cambodia Mission).
3. More effort going into building the capacity and promoting national staff into senior posts (some ACF).
4. Increase in the number of salaried posts (ACF) and increase in salaries for senior posts more in line with other international organisations (ACH).
5. Opportunities for staff to have an international language training for skill development (ACF Laos; OXFAM Tajikistan – English language lessons open to all staff including support staff, drivers etc).
6. National staff encouraged to be more involved in management tasks including proposal writing and in making presentations at national, regional or international conferences to build up confidence and communication (written, verbal) skills at an international level.
7. Missions responsible for care of and retention of field staff, showing value for the staffs contributions and providing opportunities where appropriate and possible for advancement / promotion.
8. Opportunities for training and a bonus for recognition of a volunteer or staffs commitment to the organisation after a number of years of working for the organisation (ACF).
9. Capacity building opportunities for staff such as through secondments to other organisations (including development organisations with longer term project time-frames) to compare approaches.

29 / Christoplos, C (2006) 'Links Between Relief, Rehabilitation and Development in the Tsunami Response, A synthesis of initial findings', London: Tsunami Evaluation Commission

A.3.1.2 Handover & documentation

With a high turnover of staff, an effective handover is essential to help ensure continuity and at the end of the project, to make sure that valuable learning and documentation is not lost. Whilst in-country documentation procedures should be followed and key documentation archived at the closure of programmes or Missions, with the increase in use of electronic media, new options for the consolidation of materials for easy retrieval can be used. Staff should not only have a face to face handover but have time to visit partners, Government authorities and visit a number of projects together to introduce the new staff and discuss particular issues in the field. Ideally when working with partners, having the opportunity to have joint meetings to discuss on-going plans and commitments so that all parties are clear are also important.

Case study ACF-IN

On the closure of the Cambodia Mondolkiri programme in 2007, a double CD/DVD set was produced, including key documents and electronic hygiene promotion materials.

The DVD of key materials included the following:

- **Knowledge** – Key sector reports, presentations, useful material which could still be used by partners and other stakeholders in the future etc.
- **Work done** – Technical details, maps, borehole logs, water quality test results, photographs, list of water point committees, distribution lists, evaluations etc.
- **Experience & tools** – Borehole log forms, hygiene education materials, hygiene awareness raising sessions formats etc

As a very transparent action the CD/DVD was distributed to partner organisations, Communes (groups of villages), the Government of Cambodia and other sector actors. This is an excellent example of capitalisation which it would be positive to replicate on the closure of other programmes.

A standard list of key documents for **handover of key staff** and at **closure of a programme or Mission** should be developed which can be used as a checklist to make sure that standard documentation is available on handover and at closure of programmes. If the information is produced on an electronic media such as a CD/DVD, the information can also be held effectively by both the Mission and the Headquarters and regional technical advisors at the same time.

Suggested list of key documents for adaption and discussion for further development – for handover at programme completion [30]

Knowledge

- Sector policies
- Sector reviews
- Key published contextual reports on the country
- Key sector reports from other organisations
- Useful technical material relevant to the particular context
- Other useful

Programme contractual documents

- The final versions of all funding documents

30 / Building from the handover DVD of the Cambodia Mondolkiri programme.

- Key communications and any key interim documents
- Inventory of equipment and restrictions from donors on handover of equipment
- Progress reports
- Evaluations
- Responses to progress reports & evaluations
- Partnership agreements / MoUs
- Key communications re partnership agreements / MoUs
- Other useful

Work completed

- Summaries / compilations of activities completed – borehole logs, people trained, distribution lists, gender disaggregated data for all activities etc
- Maps
- Internal quarterly reports
- Photographs of project activities
- Other useful

Experience and tools

- Research reports
- Useful forms and materials developed and used during the programme
- Hygiene education materials developed and used from other organisations
- Technical training formats
- Step by step methodologies for implementation – final version and information on previous changes
- Other useful

Inventory of equipment

Equipment provided for donor funded projects are usually expected to be handed over to local organisations when the organisation departs from a country as the equipment has been provided for the benefit of the people of the country. Handing over equipment can also form part of the institution building of partner organisations. It is recommended that as part of the annual audit process for financial records, that an additional requirement is expected of all country programmes that the audit also checks that the inventory is up to date and includes any restrictions on the handover of equipment. The audit should not be signed off until this is complete. The effective tracking of equipment and assets is not only important for management issues but is also important for accountability to the beneficiaries, as a significant sum of money is spent on equipment which is meant to benefit the beneficiaries. Where an organisation has multiple short contracts and a high turnover of staff, the tracking of equipment and rules around its disposal are particularly important.

A.3.1.3 Partnership

Understanding partnerships [31]

'Cooperation between NGOs covers a wide spectrum of relationships from 'authentic' partnership based on solidarity, mutuality and a broad organisational relationship to narrower, funding-based relationships such as those of donor-recipient'.

'The main criteria on which the typologies are based are the extent of **equality, mutuality** and **shared governance** in the relationship'.

31 / Mancuso Brehm, V (2001) 'Promoting Effective North-South NGO Partnerships, A Comparative Study of 10 European NGOs', INTRAC, Occasional Paper Series, Number 35; & Fowler, A (2000) 'Partnerships: Negotiating Relationships, A Resource for Non-Governmental Development Organisations, March 2000, INTRAC, Occasional Papers Series, Number 32

Organisations may have a number of different 'types' of relationships with various NGOs at the same time and they are often not static but change over time.

Benefits of partnership between Southern and Northern NGOs:

- Improving local ownership
- Sustainability and poverty reach
- Mutual exchange of ideas between North and South

The difference between the partnerships of 10 Northern NGO's:

- The extent to which they take a functional view of working with partners as a mean to achieve their organisational aims.
- Some NGOs see the development of long-term partners as an end in itself, based around notions of solidarity and the strengthening of civil society organisations in the south.

Fowler (2000) suggests 5 categories of relationships between northern and southern NGOs, based on quality and organisational breadth:

- Partner – Greatest breadth of organisational interaction with mutual support for the identity of all aspects of each organisation.
- **Institutional supporter** – Primarily concerned with overall development effectiveness and organisational viability. It can include policies, strategies, operations and management, organisational viability etc.
- **Programme supporter** – Concentrates on a particular area of development work, often understood in terms of sectors, such as health, water supply etc. Support can be financial inputs, technical expertise, facilitating access to specialist networks etc.
- **Project funder** – This relationship is narrow and focussed. It revolves around negotiation on discrete projects. This type of relationship can result from a NGO gaining funds for an initiative it identifies.
- **Development ally** – Provides the lowest level of collaboration and is typically found in networks, coalitions and so forth (and usually does not involve financial transactions).

Leach (1995) identifies 6 models of collaboration between organisations based on the degree of shared governance:

- **Contracting** – The local NGO provides a well-defined package, determined by the Northern NGO, for payment.
- **Dependent franchising** – The local NGO acts as a field-office, operationally independent but dependent on the Northern NGO for direction and funding.
- Spin-off NGOs – The dependent franchise or field office is expected to become independent over time.
- **Visionary patronage** – There is a shared vision and goals. The Southern NGO implements and the Northern NGO provides funding and other resources.
- **Collaborative operations** – There is shared decision-making. Joint programmes are implemented by the Southern NGO with support and funding from the Northern NGO.
- **Mutual governance** – Each organisation has substantial decision-making power over policy and practice at both organisational and programme levels.

Recommendation for partnership / collaboration types – case study ACF-IN 2007
Five types of partner relationship / collaboration which are most useful for consideration when analysing the type of partnerships / collaboration that ACF-IN should have include:

- Contractor
- Institutional supporter
- Programme supporter
- Development ally
- Coalition partner

For local NGOs and governments the most useful types of partnership for longer term impact are the **institutional supported and programme supporter.** The programme support enabling the partner organisation to gain experience in implementing programmes and the institutional supporter to help develop the organisation to become stronger and more capable so that they can sustain themselves or continue with increased capacity over the longer term. Partnerships which have an institution building aim, should ideally last for a minimum of 5 years (3 years absolute minimum), which poses some challenges to an INGO such as ACF which only provides its own staff with short term contracts and mainly works on short term funded programmes. However, the short term nature of ACF-IN's programmes should not be a limitation to having clear Memorandum of Understanding for a longer term partnership, even if activities within the wider framework are funding dependent.
Development Ally and Coalition partner include more informal or remoter levels of collaboration and may be with similar types of organisation, or related to specific sectoral issues.

Effective partnerships are based on: [32]

- The effectiveness of work on both sides
- The quality of the relationship
- Clarity about the purpose of the relationship

Principles for effective partnerships: [33]

- Transparency – both ways
- Joint vision and aims for the partnership and similar core values
- Clear partnership agreement with roles and responsibilities and exit strategy
- Communication, communication, communication [34]
- Respect for the strengths and capacities of each partner & their complimentarity
- Listen to each other and each others constraints
- Respect for the right of each organisation to make its own decisions on the way the organisation functions and self-governance
- Joint planning – don't just give the local partner a 'straight jacket' by handing them a project with the design and plans already complete
- Equality / equity in decision making
- Being consistent in the partnership but flexible to respond to learning with mutual agreement
- Efforts to provide capacity building versus identified needs

32 / Brehm, V (2001) 'NGOs & Partnerships', NGO Policy Briefing Paper No 4, April 2001, INTRAC
33 / Various sources including a range of recommendations from southern NGOs and governments met during the field work.
34 / Ashley, C, Poultney, C, Haysom, G, McNab, D & Harris, A (2005) 'How to…? Tips and tools for South African tourism companies on local procurement, products and partnerships', Brief 3: Building local partnerships

- Efforts made to help sustain the organisations as per their individual missions
- Making efforts towards gender equity in the organisation and in projects and making particular efforts to ensure that those who are marginalised are included
- Working to agreed standards
- Clear MoUs with conflict procedures
- Monitoring processes to be transparent – including monitoring of performance, financial management, relationships with communities, sub-contractors and other sector stakeholders

Lessons for helping develop good partnerships: [35]

- Factoring in time to understand each other
- Being realistic about expectations, goals, objectives
- Clarifying ground rules and processes in a document (including budgets and exit strategies)
- Discussing ways of dealing with conflict
- Using a flexible management model and leadership style which suits the partnership type
- Not relying on a small number of individuals
- Being honest about levels of resources, commitment, and capacity
- Communicating clearly and being willing to trust

Limits to partnerships: [36]

- **The role of the northern NGO as donor** – a major obstacle in achieving equality and skews the power balance.
- **Funding processes and distorted accountability** – funding processes 'hijack' the accountability to the beneficiaries and distort them towards northern donors with northern NGOs assuming a control function.
- **Organisational capacity limits** – capacity mismatch between organisations of different sizes & the capacity limits of the northern NGO including lack of coordination between northern NGOs and high staff turnover.

35 / OXFAM (no date) 'Section III – Implementing OXFAM's principles through quality programming' (source: OXFAM document) – Section 8 – 'Working in partnerships and alliances'
36 / Brehm, V (2001) 'NGOs & Partnerships', NGO Policy Briefing Paper No 4, April 2001, INTRAC

Following is an example of a partnership which has been proven to be mutually beneficial for both partners.

Staff from CORSOC and ACH - Case study ACF-IN
CORSOC were set up by a church to support vulnerable people and have been a partner organisation to ACH in Tierralta Municipality of Córdoba Department (region) in Colombia for the past 7 years. Both ACH and CORSOC expressed how their partnership with each other has a number of benefits, including that it makes the other more secure to work in conflict affected areas. As an organisation CORSOC faces a number of challenges including limited transport (they only have 2 motorbikes for 10 staff) and ensuring their efforts are neutral at all times. When funding is difficult and an outside actor comes and offers money for development projects they may have to say no and refuse the money politely even though the money is needed, if they have concerns that the money may have come from illegal source.

Following is another example of a successful partnership, which was with a local organisation called Teuk Sa'at in Cambodia which was formed mainly from ACF staff. Teuk Sa'at has managed to sustain itself over the past 10 years.

Teuk Sa'at – case study ACF-IN 2007

Teuk Sa'at ('Clean Water' in Khmer) was formed in 1997 as part of a AFD funded programme which had a goal for the setting up and development of local NGOs. The current Director, Mr Chea Phan, was a teacher at the time and the President of the Teachers Association in Siem Riep and was asked to become the Director and to select staff from ACF to join him.

The organisation aims to provide safe water to the rural areas, especially for vulnerable people, to improve the primary health of the community by WATSAN education activities and to participate in the Government's policy of poverty reduction of the population.

ACF provided Teuk Sa'at with 2 vehicles, 1 computer, a generator, two PAT 201 drilling rigs, ring well equipment and WATSAN education materials (equipment was provided under a bilateral agreement between AFD and the Government of Cambodia but linked to the ACF programme). It also provided Teuk Sa'at with initial contracts and introduced them to other donors and some training for key staff on management, accounting, English and water testing.

Today Teuk Sa'at has shown that it can sustain itself by gaining a number of contracts independently over the past 10 years, having purchased two PAT 301 rigs itself from money it has saved by adding depreciation money to its projects to cover the depreciation costs of its equipment. Today the Director is the only original staff member left with other staff having left and been replaced.

The biggest challenges it faced in being able to sustain itself and how it has responded to come of these are as follows:

- Covering funding gaps in-between contracts – on one occasion it only paid the staff per diems during a 2-3 month period.
- The PAT 201 rigs not being of a high enough capacity to compete for the work it needed to sustain itself – it managed to purchase its own PAT301 rigs through adding depreciation costs into contracts.
- Not being able to increase its salaries to remain competitive to retain staff – staff continue to work on salaries set at the previous levels from the time of formation.
- It is challenging to compete with private organisations when bidding – as the private organisations have fewer overheads (but also may offer lower quality of work).
- There is a risk when the current Director retires in a few years that the organisation will not be able to continue as his salary is low to attract equivalent level staff and the existing staff do not have strong enough English or French to be able to communicate effectively with donors.
- Donors changing their priorities.

Partner selection / agreements

When selecting a partner organisation a two stage process is useful, with an initial application and screening process (where appropriate) and then a more detailed assessment after short-listing and taking up references.

For the detailed partner selection procedure and an example of a partnership MoU, refer to AAH-UK who are currently refining the guideline for the ACF-IN partner assessment procedure.

Partnership – institution building

This section includes a number of recommendations by sector stakeholders – LNGOs, the Government of Liberia, other INGOs and donors and general good practice for capacity building local organisations. Note that the capacity building needs of each organisation will be different and hence it is important to first undertake an institutional analysis and within this a capacity building assessment to be able to better refine the needs of the particular organisation. These should be done jointly and transparently with the partner organisation.

Time-line:

- **Partner with a local organisation for a minimum of 5 years (absolute minimum 3 years)** – allow enough time for the partnership to develop, for the organisation to grow and respond to capacity building and to become strong enough to sustain itself for continuation and to find future funding. The agreement or MoU should be for this length of time even if the projects funded are for less – it is an intention to be in partnership and that efforts will be made to find funding to maintain the partnership.
- **The partnership can initially be for a trial period of one year** - and then the additional years confirmed after this – but this process should be transparent.
- **The partnership should be reviewed each year** – from both organisations perspectives, and there should be conflict resolution procedures included in the formal MoU and a mechanism for breaking the partnership – from either side under certain conditions – however this should be used as only a very last resort.

Key areas for capacity building for local organisations

AREAS		POSSIBLE CAPACITY BUILDING ACTIVITIES NOTES: • 'Training in…' unless otherwise noted • Equipment can be jointly purchased with contributions from the organisation, other donors as well as ACF – as appropriate
Institution building	Management	• Training & mentoring in management • Strategy development, participatory planning, the project cycle • Proposal and report writing • Monitoring, evaluation & learning
	Values / principles	• Transparency, accountability • Gender & equity • Sustainability
	Financial management & fund-raising	• Budgeting & monitoring of budgets • Developing effective accounting systems • Accountancy • Fund-raising – from donors or income generating projects for the organisation
	HR	• Developing effective HR policy • Job descriptions, recruitment procedures, mechanisms to retain staff • Salaries and support costs
	Logistics	• Setting up a logistics system including maintenance routines & training in logistics
	Networking	• Link up with appropriate networks • Provide funding for networking activities
Capital / assets	Transport	• Provision of new vehicles – pick-up, land cruiser, motorbikes, trucks • Development of maintenance plan – timing and funds required • Plan for replacement – requesting depreciation costs in project proposals, requesting vehicles in new proposals

AREAS		POSSIBLE CAPACITY BUILDING ACTIVITIES NOTES: • 'Training in…' unless otherwise noted • Equipment can be jointly purchased with contributions from the organisation, other donors as well as ACF – as appropriate
Capital / assets	Office & communications equipment	• Contribution to buying / building an office (if appropriate) • Contribution to upgrading office • Provision of communication equipment & training
	Computers & associated equipment	• Provision of computers, printers, email equipment, software and associated items • Virus checking routine • Photocopier • Maintenance routine and budgeting for consumables and repairs
	Technical equipment	• For example well rings & well sinking equipment, water quality equipment, hygiene promotion materials
	Drilling equipment	• Rig, compressor, trucks & associated parts • Initial supply of spares • Setting up a maintenance routine & budgeting for maintenance, repairs and replacement – include depreciation costs in project proposals
Staff capacity building	Assessments & reports	• Needs assessments & baseline assessments • Report writing & computer skills
	Technical training	• Participatory approaches • Hygiene promotion methodologies & facilities • Sanitation – latrines, waste disposal, drainage, other – sanitation ladder & options • Management models, committees & training for sustainability – fund-raising, leadership skills, gender, financial management, conflict resolution • Technical – shallow wells, springs, drilling, handpumps, bucket and windlass, water quality assessment, training community pump mechanics • Cross-cutting - gender & equity, HIV/AIDS, environment, conflict resolution • GIS mapping & database management – particularly for Govt
	Programmes, MEL & coordination	• Stages in programming & exit strategies • Follow up support – phased • Linking with Government & involving them in the programme • Coordination with other sector actors & opportunities for joint learning • Monitoring, evaluation & learning
Project funding	Funding	• Funding for project activities • Staff and transport costs • Overheads & depreciation costs for equipment

Useful documents on partnerships and institution building:

- Brehm, V (2001) 'NGOs & Partnerships', NGO Policy Briefing Paper No 4, April 2001, INTRAC
- Brehm, V. M. (2001) 'Promoting effective north-south NGO partnerships; A comparative study of 10 European NGOs', May 2001, INTRAC
- CIIR (no date) 'Chapter 8: Publicity & fund-raising', in capacity building for local NGOs: A guidance manual for good practice'
- DFID (2003) 'Promoting Institutional & Organisational Development'
- Fowler, A (2000) 'Partnerships: Negotiating relationships: A resource for non-Governmental development organisations', Occasional Paper Series Number 32, March 2000, INTRAC
- Fowler, A, Goold, L & James, R (1995) 'Participatory Self Assessment of NGO Capacity', Occasional Papers Series Number 10, Dec 2005, INTRAC
- INTRAC (2006) 'Donor Policies and Capacity Building: Group Discussions and Reflexions on Current Trends at the Praxis Programme Catalyst Group Meeting', PraxisNote no 19, January 2006

A.3.2 DEVELOPING DISENGAGEMENT STRATEGIES

This section has drawn heavily on the publication by the C-SAFE Regional Learning Initiative[37]. Refer also to Section A.1.3 for a definition on disengagement and possible reasons for disengagement.

Organisational policy relating to sustainability and disengagement or exit strategies:
A 'disengagement' or 'exit' strategy is a strategy or plan which designs how a programme will end, or for withdrawal of the organisation or the organisations resources from a project or programme area, so as to assure the programmes goals are not jeopardised and the benefits continue over a longer term period.
Exit strategies should be considered whether or not it is expected that needs may continue, or increase, as an exit strategy can also be thought of as a **'Sustainability Plan'** or **'Sustainability Strategy'[38].** Exit strategies have inherent benefits irrespective of timing or context and are **not to hasten the exit** (exit is valuable for its own sake), but to improve the chances of sustainable outcome for the programme. Exit strategies should be considered from the start / early on in the programme life.

Recommendations for – a timeline for developing an exit strategy:

- Within 1 month of an acute emergency event or response to another emergency event, discussions will be initiated on the programme's exit strategy.
- Within 2 months of an acute emergency a draft exit strategy will be developed with the key elements – how the agency will work, who the agency will work with, timeline.
- The exit strategy will be revisited at 3 months, 6 months and then yearly thereafter – the exit strategy should it should remain a flexible (iterative) process.

Programmes may have exit strategies relating to different levels:

1. For the exit from individual communities and projects
2. For the exit from districts or regions
3. For the exit from the country

37 / Gardner, A, Greenblot, Joubert, E (2005) 'What we know about exit strategies, practical guidance for developing exit strategies in the field', C-SAFE, A Product of the C-SAFE Regional Learning Spaces Initiative, Sept 2005, CARE, CRS, World Vision, ADRA, USAID
38 / Gardner, A, Greenblot, Joubert, E (2005) 'What we know about exit strategies, practical guidance for developing exit strategies in the field', C-SAFE, A Product of the C-SAFE Regional Learning Spaces Initiative, Sept 2005, CARE, CRS, World Vision, ADRA, USAID

Benefit of exit strategies:

- Ensure better program outcomes and encourage commitment to program sustainability.
- To ensure the sustainability of impacts after a programme ends.
- Help to resolve tensions that may arise with the withdrawal of assistance and commitment to achieve programme outcomes (although the discussion on exit strategies may also raise tensions).
- Help to clarify and define a programme sponsor's role to host countries and local partners as being time limited, reducing the potential for misunderstandings and future dependency.
- They inform of the programmes planning for the next phase.
- They can result in leaving on-going capacity for replication of projects and hence a wider impact.

Three approaches to exit strategies:

- **Phasing down** – Phasing down is the gradual reduction of program activities, utilising local organisations to sustain program benefits while the original sponsor (or implementing agency of donor) deploys further resources. Phasing down is often a preliminary stage of phasing out.
- **Phasing out** – This refers to the sponsor's withdrawal of involvement in a programme without turning it over to another institution for continued implementation. Ideally a programme is phased out after permanent or self-sustaining changes are realised, thus eliminating the need for additional external inputs.
- **Phasing over** – A sponsor transfers programme activities to local institutions or communities. During programme design and implementation, emphasis is placed on institutional capacity building so that the services provided can continue through local organisations.

Suggested options for 'phasing over' - Setting up a new NGO; Working in partnership with an existing local NGO; Handing over to other INGOs; Handing over to Central Government (such as drilling capacity); Handing over to the Regional Government or Local Authorities; Handing over to the private sector; Handing over to communities (only).

Criteria for exit:

- **Time limit –** can be used to focus in on establishing systems of sustainability or may be limited by donor funding cycles
- **Achievement of programme impacts –** although difficult to assess within the programme time-frame, impact indicators can be used to determine exit – phased programmes and exits can give a greater opportunity to measure impacts of earlier projects and learn and feed learning back into the programme for future exits.
- **Achievement of benchmarks –** achievement against measurable indicators of identified steps which should be part of the monitoring and evaluation framework.

Partner organisations views on phasing out from programmes involving partnerships:
Recommendations which partners have given Tearfund re-phasing out[39]:

- Negotiate an end date to the partnership. Leave enough time to find alternative support arrangements for the project.
- Ask for a decision in writing, clearly stating the reasons for phase out. This will help when explaining the changes to staff later on.
- Create a joint exit plan, including a timetable, and stick to it.
- Ask for a letter of recommendation or a reference to give to other potential supporters. It helps others interested in your work to know that you have a well-run project.
- Think about long term sustainability from the start. Discuss capacity building requirements for your organisation or group, which might include project cycle management, financial management and fundraising.

39 / Cornish, A, 'Lessons learned in phasing out' in Tearfund (2007) 'Planning for Sustainability', Footsteps, No 64 Sept 2005

- Be open and transparent in your communication.
- Link to local, regional, national and international networks which will assist your work and keep your organisation up to date with the latest information in your area of work.
- Develop a website which can provide vital information to others around the world and a useful source of income.
- Think about alternative sources of funding such as local government.
- Think about planning a celebratory event (meal, gathering) that will formally acknowledge the successes of the partnership and end the relationship well.

Questions for the development of exit strategies [40]
Key questions for developing an exit strategy:
• Why?
• When?
• How?
• Handing over to whom?
• Which time-frame?
• How to fund the disengagement process?

AREA	QUESTIONS
1 Planning for exit strategies from the earliest stages of programme design	• Why are ACF-IN working in a particular area? • What are the programmes aims for longer-term sustainability? • What is the time-scale for the programme & exit? • What should be the criteria / indicators for leaving an area? • What should be the benchmarks for monitoring progress towards exit and how will they be monitored? • What are the specific action steps needed to reach the benchmarks? • Should advocacy for additional support from the Government or donors be part of the exit strategy? If so – who should also take part in this activity? • The exit strategy may include several scenarios or contingency plans which respond to unknown factors such as recurrent droughts, a changing political situation or a return to conflict. • What elements of the programme can be sustained without additional outside inputs and which elements are likely to need them?
2 Developing partnerships and local linkages	• Options for handover and / or sustainability? • Do the options for handover require the development of new or on-going partnerships and if so in what form should these exist? • What will our partners bring to the partnership and what can we offer? • What will be the common goals for the partnership? • How will the partnership be prepared for exit? • How can the partnership help facilitate a successful exit?
3 Building the capacity of local organisational and human capacity	• Capital, human, training & on-going resources needed? • Timescales for the partnerships and capacity building? • What form will this capacity building take and who will provide it? • Are the organisations responsible for implementing the phased over programmes resilient to shocks and changes in the political and social environment? • Is there a viable plan to generate the consumable or on-going supplies and costs?

40 / Adapted from the planning matrix in the reference Gardener et al (2005) with contributions from the consultant

AREA	QUESTIONS
4 Mobilizing local external resources as an exit strategy	• What inputs will be needed to undertake capacity and institution building? • What inputs will be needed to sustain services over the longer term? • Develop a budget for the strategy - who will fund disengagement? • Who can provide these inputs – locally or externally? • Build the capacity of partner organisations or communities to be able to fund-raise and manage funds as appropriate • Introduce partner organisations to other potential donors
5 Staggering phase out of various activities	• What are the key elements of the programme? • Which elements are dependent on others? • How can the exit be phased so as to be able to monitor and learn from early successes and challenges?
6 Monitoring the exit strategy versus agreed indicators or benchmarks & monitoring the final exit strategy some years after exit	• Review process for exit strategy – at which interval, who should be involved? • Vulnerability indicators – comparing one area to other areas of need? • Does the exit strategy need revision based on the findings of M&E? • How does this exit strategy tie in with the exit strategies of others – such as those in a local consortium, the donors, the partners? • Can the local partners or others on the ground be used to help monitor the indicators or impact of the final exit?
7 Allowing roles and relationships to evolve and continue after exit	• What type of on-going support would be most useful e.g. advice, mentoring, technical assistance, etc • Is the organisation prepared to continue with this on-going support? • How will such on-going support be funded when the project finishes?

Indicators for disengagement

Indicators for exit at the end of a disengagement process are useful to be able to make judgements as to when exiting a project, a programme area or country is appropriate. The following provide a starting point for developing context specific indicators for each level.

(a) Indicators for exiting from a country

General questions for developing indicators for exit from a country programme

Consider indicators which would allow a judgement to be made on the following (ideally measurable, although some may need to be subjective):

Agency mandate:

1. Does the programme continue to fall within the agencies mandate?

Country context:

2. Is the country returning to stability – consider incidences of violence, military presence, progress with disarmament etc?
3. Is country improving economically – consider trends in GDP, position on HDI, other studies?
4. Indications of recovery – these may be specific to particular gaps in the provision of services in the country?
5. Who else is providing inputs to respond to the needs – what is the pattern of disengagement of other INGOs and humanitarian organisations?

Comparison to other countries in which the agency is working:

6. How does the country compare to other countries in which the agency is working?
7. Are the people poorer or more vulnerable?
8. How do the intermediate level actors capacities compare?

Capacity of local NGO partners:

9. Have they shown an increase in capacity to be able to implement programmes?
10. Have they shown capacity to prepare funding proposals and attract funding independently?
11. Have they developed new partnerships with other organisations?
12. Have they produced audited accounts with no irregularities for a reasonable length of time?

Capacity and engagement of government and local authorities:

13. How has the capacity of local institutions and the local authorities improved?
14. Indications that the regional and / or district level actors are undertaking monitoring of past projects seriously?
15. Examples can be provided where the district level authorities have responded to problems in villages and helped to facilitate a solution.

Sector advocacy:

16. Is there evidence of the key gaps in the sectors response being taken up by the WASH sector at national level?
17. Are the bilateral and multilateral development donors engaged in priority areas which will help to ensure longer term sustainability?

Notes:

- Many of the above will not be in the agencies full control, although it will be able to influence or contribute to some of them.
- Most will also be subjective and a judgement will be needed when comparing the level of need between the countries and where the agency wants to target its resources.
- Learn from other country programmes as to disengagement strategies which worked.
- Where it is possible, keep an eye on the country situation after disengaging – continuing partner relationships after departure can be helpful in keeping up to date in case the situation deteriorates.

Refer to the table below with some examples of possible indicators for exit from the Liberia programme.

Examples of possible indicators for exit for ACF-IN from Liberia (for further development)

The country context:

- UNMIL has reduced its presence in the country to 25% of its max. force (of 15,000 troops) and there are no indication of a return to conflict.
- GDP is continuing to increase for two years in a row.
- Liberia has worked its way up the UNDP HDI rank (after first re-entering the ranking chart).
- The GoL has started taking over the management of more health facilities.

Local NGO partnerships:

- LNGO partners have obtained funding from at least two other donors, through writing proposals and engaging with donors directly without significant inputs from ACF, which will enable them to sustain themselves for the next year.
- LNGO partner organisations have obtained a longer term partnership with a development focussed INGO.
- LNGO partners who have had a drilling rig handed over to them have managed to source and purchase their own spare parts for the rigs.
- LNGO partners who have had a drilling rig handed over to them have managed to effectively manage and maintain the rigs with very limited input from ACF for a minimum of a two year period.
- LNGO partners have had audited accounts which show no serious financial irregularities for two years concurrently.

Partnerships and support to Government for longer term back-up support:

- Government at County level has set up a practical monitoring schedule – for current status of water, sanitation & hygiene in the County (but particularly water) at village level.
- The Government at county level is undertaking monitoring of projects at village level and / or responding to problems highlighted by district level.
- A structure at district level is effectively engaging in monitoring and reporting (to the District Authorities, the CHT or the private sector), problems with WASH projects in the ACF programme areas.

Sector advocacy:

- The sector has firmly placed the establishment and support of a spare parts network as a priority on the sector agenda.
- A development donor has agreed to support the establishment of and monitoring and back-stopping to a national spare part network.
- A development donor has agreed to support the longer term capacity building and financing of the intermediate level actors nationally (at County and District levels) to be able to undertake management and back-up support over the longer term (financing for at least a 5 year period).

Notes:

- Some of the above indicators will be outside of ACFs full control although ACF has opportunities to influence them, for example those under the advocacy sub-heading. They are however included because if the indicators are reached they provide a positive sign for the continuing development of the WASH environment in Liberia and will contribute to the longer term sustainability of the projects which ACF supported during its time in Liberia.
- ACF should also consider when deciding if it should exit Liberia, where Liberia is on the HDI index versus other countries in which it is working. In 2006 it was not on the ranking. The people of Liberia are likely to continue to be poorer and have fewer services than many other countries for years to come. The general vulnerability of the population in comparison to other countries is also a consideration.

(b) Indicators for exiting from a programme area

- Poverty ranking within the country versus other areas
- Particular vulnerabilities versus other areas of the country (due to war, natural disasters, IDPs etc).
- Coverage of water supply and sanitation
- Meeting of Sphere and national standards
- Consider the questions noted in (a) above for capacity of local NGO partners
- Same for capacity and engagement of government and local authorities

(c) Indicators for exiting from communities

Refer to the Proxy indicators in Section B.2.2.5 for a range of indicators which indicate the likelihood of sustainability.

Examples of possible indicators for use to decide when to finally exit communities – the disengagement process should be in phases ideally over a period of years:

- Coverage for water supply and sanitation as per Sphere or national standards
- Technical facilities are continuing to function well and providing an adequate service
- KAP shows improvement in hygiene practice within the community
- Management system is continuing to function and is clear all members of the community
- Transparent system which is working for the collection and management of funds
- Community management system shows evidence of the community being able to solve problems without the agencies assistance, but using the support of local level actors

Exit strategies in relation to WASH projects and programmes – research funded by DFID[41]:

Points highlighted from the DFID funded research into exit strategies for the resettlement of drought affected populations:

- Changes in health require long term health education and cannot be fit into a two year programme.
- Where it is likely that an organisation will remain in the same area for a succession of funded projects – consider planning for a longer term programme (longer than the length of the donor funding).
- 'There is a strong need, acknowledged by the literature and data, for technical support on the second level repairs. The communities are unlikely to ever be able to undertake the very serious repairs (such as a collapsed borehole). Therefore there must be some agency present (even if a private supplier or local government authority) that has that extra technical capability'.
- 'The literature review clearly shows that the 'VLOM' is a combination of village level resources with local area resources (either local government or private suppliers)'. 'In each case it is not true to imply that the village is left purely to its own resources to operate and maintain the pump'.
- 'Motivation within any social grouping will change and more than likely diminish over time. Again literature and data suggests that there must be 'ongoing consultation' in order to keep the community motivated to pay. In theory this could be undertaken by the village water committee. However, there is also the element that participation wanes after a while, and it may require very small but important external support to maintain participation and motivation'.

Case study ACF-IN

ACH partnerships & exit strategy, Argentina

ACH started working in Argentina following the economic crisis in 2002 (economic crisis - 1998-2002) and it works with community organisations (NGOs formed from CBOs) in urban environments. The programmes are nutrition (campaigns, research, surveys, capacity building) and food security (distribution of food from community centres, support for productive & community projects, strengthening grass roots organisations, conducting socio-economic vulnerability diagnosis). The local partners are able to work in very vulnerable areas where there is poor security and it is essential for ACH to work through such partners to access these areas.

Progression of partnerships:

- ACH started off working with more NGOs at the beginning and then assessed how serious the various NGOs were about their work and then subsequently reduced the number to some core NGOs. Now ACH and the current NGOs have worked together for 2 years and hence they know each other quite well. ACH is planning to close its programme at the end of 2007 and in preparation for this it has been helping its own staff to build their capacity and to link them up with other organisations to look for other jobs.
- Initially ACH requested funds from the donors, but then the local NGOs started applying with ACH providing technical assistance. With its partner NGOs it has been helping them to be able to write donor proposals, to understand administrative processes and to be able to undertake fund-raising. It has also started to try and link up the NGOs with private enterprises (who are interested in undertaking projects related to corporate social responsibility) as follow on possible sources of work and funding as external aid reduces.
- After the end of 2007 it is planned to set up a network of NGOs who will have a link to ACH Madrid and will monitor the situation; the network will be implemented by the partners and will be funded by a donor. Currently two proposals have been submitted. The idea of supporting the network and monitoring is so that although ACH will have withdrawn it will also be able to keep an eye on the situation and will keep relationships in case it needs to come back.

41 / Batchelor, S, McKenny, K, Scott, N (2002) Exit Strategies for Re-settlement of Drought Prone Populations, Project Technical Report, DFID and Batchelor, S, Ngatshane, J & McKemey, K. & Scott, N (2001) 'Organisational exit strategies for water supplies', 27th WEDC Conference, Lusaka, Zambia, 2001

As an exit strategy is effectively a 'sustainability plan', further details of the different elements which should be included in a 'sustainability plan' for projects and programmes can be found in Sections B-1 and B-2.

Country mission strategy - Case study ACF-IN
ACF-IN should change its one year Country Mission strategies to 3 year rolling strategies (note Lao PDR already has a 3 year strategy as well as the 1 year required by the ACF-Paris HQ). A 3 year strategy would help the Mission to consider a time horizon longer ahead than the current funding period. It can be based on a number of scenarios. Key elements of the Country Mission's exit strategies should also be included – for projects, programme areas and the country.

Useful documents on exit strategies:

- Batchelor, S, McKenny, K, Scott, N (2002) Exit Strategies for Re-settlement of Drought Prone Populations, Project Technical Report, DFID
- Batchelor, S, Ngatshane, J & McKemey, K & Scott, N (2001) Organisational exit strategies for water supplies, '27th WEDC Conference', Lusaka, Zambia, 2001
- Gardner, A, Greenbolt, Joubert, E (2005) 'What we know about exit strategies, practical guidance for developing exit strategies in the field', C-SAFE, A Product of the C-SAFE Regional Learning Spaces Initiative, Sept 2005 (CARE, CRS, World Vision, ADRA, USAID)
- IASC (no date) 'Exit Strategies for Humanitarian Actors in the Context of Complex Emergencies'
- Cornish, A (2007) 'Lessons learned in phasing out' in Tearfund (2007) 'Planning for Sustainability', Footsteps, No 64 Sept 2005, Cornish, A, 'Lessons learned in phasing out'

CHAPTER 2
PROGRAMMES & PROJECTS

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B.1 ENHANCING SUSTAINABILITY IN PROJECTS

B.1.1 OVERVIEW OF GOOD PRACTICE IN PROJECTS

The following table summarises the factors which affect sustainability and the proposed ACF-IN approaches to respond to each.

FACTOR	COMMENTS	SUMMARY OF GOOD PRACTICE PROPOSED ACF-IN APPROACHES
EXTERNAL FACTORS		
1 Legislation, policies & political support	Where the legal framework of a country defines an effective mechanism for longer term operation and maintenance or clarifies ownership of facilities, this positively influences sustainability.	ACF will always consider national policies for the management and operation and maintenance of water, sanitation and hygiene facilities and in most cases will work to ensure that the systems they promote for the management and operation and maintenance of systems is in line with the national policy. Where policies do not exist ACF will engage in advocacy and processes for their development at national level.
2 Efficiency of intermediate level actors – Govt, NGOs, private sector (for longer term back up support to communities)	Occasional back stopping support is needed over the longer term by intermediate level actors such as local authorities, Government, or in some cases local NGOs or other organisations, to help communities solve problems. The private sector can also help in the solving of problems over the longer term.	A focus will be made to involve local authorities and Government from the start of projects and on linking communities with local institutions. Efforts will also be made to contribute to building the capacity of local institutions to be committed to and able to provide longer term back up support to communities. ACF will also advocate within the sector and with donors for more substantial capacity building support for intermediate actors to be able to be able to undertake this role.
3 Standardisation of approaches across the sector	When there is a standardisation of approaches across the sector, the intermediate level actors can be more effective in providing back up support to communities across their areas of responsibility.	Where it is decided to support handpumps, the sector standard handpumps will be supported but opportunities for alternative simple technologies will also be considered. Efforts will be made to lobby and advocate with national level actors and longer term donors to support a national spare parts network. ACF will make efforts to engage in debates about standardising approaches between sector actors working across communities.
4 Availability of external funds for major works	If there are readily available funds for major rehabilitation or replacement of facilities, this helps ensure a continuation of service, if communities are unable to fund the works themselves.	ACF will engage in rehabilitation activities in post crisis situations and help to link communities up with other donors where the opportunity is possible.

5 Sustainable availability of spares at reasonable cost	If spare parts are not readily available at a reasonable distance and cost over the longer term, this will have a negative effect on sustainability and can lead to handpumps and pumps and engines remaining out of order, sometimes for minor reasons and costs.	Establishing an improved spare parts network with existing private sector organisations may be used as part of an advocacy process, but in-depth consideration will be required as to how the system will sustain itself (considering that profit from spare parts is low and hence not good business and hence sustainability is most likely to rely on good will of the shop keepers to sustain the supply as a community service).
6 Water resource availability	If the water resource is readily available for the whole year and there is no negative implication from its use, this will often contribute to increasing the community's commitment to sustain the facility. However, this is not always the case, as in arid and semi arid areas where water is scarce, people are more likely to value their water sources, even if only available for part of the year. Where there are numerous alternative sources (even if of poor water quality), communities may be less committed to the sustaining the improved facility.	ACF will make effort to ensure the appropriate selection of the water source to ensure sustainability of yield throughout the seasons, or access to alternative protected sources at the times of the year when the main source is dry.
7 Risks from natural disasters, conflicts & vulnerability	Repetitive natural disasters, conflicts or targeting of communities leading to displacements of populations can impact negatively on sustainability of WASH facilities and interventions. Minimisation of the effects of these occurrences therefore contributes to sustainability.	ACF will consider the need for and incorporate disaster risk reduction activities (including disaster preparedness and mitigation or prevention where possible) into its programmes. Where there is a risk of conflict, particular care will be taken to ensure staff capacity is built to be able to integrate conflict resolution mechanisms into the programmes, particularly where the conflict is related to water or access to natural resources which will be affected by the programme.

8 Quality of leadership in the community	Strong leadership in a community is one of the most important influencing factors which will ensure sustainability of WASH over the longer term, particularly for community managed facilities. Weak leadership can lead to community managed facilities failing much more easily due to problems with community dynamics.	Efforts will be made to encourage communities to select community members with the appropriate community leadership strengths needed to help the management of the project and the facility to run smoothly over the longer term. Conflict resolution mechanisms will be built into all management systems and communities will be engaged in understanding what these are, and hence to be able to respond when there are leadership problems. Training on leadership will be incorporated into the training for management of a community based facility.
9 Gender, divisions inequity & social cohesion	Where there is strong social cohesion and men, women and people from different groups within the community are involved in all aspects of the project, the project or facility is more likely to lead to equitable benefit and to be maintained. Women and children often feel the most impact from a water project failing and also from children being sick from diarrhoeal diseases due to poor sanitation and hygiene practices and hence are often seen to be the most responsible when it comes to ensuring maintenance of projects.	Particular attention will be made in projects to ensure that women are involved at each stage as well as men and that both women and men' opinions and priorities are considered during the project processes. Both women and men should be members of committees including in leadership positions. Where there are strong gender divisions in communities and mixed committees are not possible then alternatives should be sought such as having two committees which meet separately and have a feedback mechanism for the problem solving and discussions. Where there are strong gender divisions, ACF should provide additional on-going back up support to ensure that women's voices are heard as well as men. Both women and men should be able to take on the posts which are paid and there should ideally be both women and men hygiene promoters and community mobilisers.
10 Appropriate management system for the facility	The system of management must be appropriate to the community and context. In peri-urban areas where the community social cohesion is often less strong, private ownership and management of water facilities may often be the best solution. Community management by committee may work in some contexts but there are many challenges to the longer term sustainability	The most common options for management and operation and maintenance of water facilities will include communities managing and operating and maintaining themselves often through a committee system, or communities choosing to engage a private sector operator. Other options will also however be considered depending on the context including involvement of the government and private sector, a community water board or other. These may be particularly relevant in an urban setting. Whether the community members in leadership positions will get a payment for their work will depend on the context. Latrines will always be supported at household level except in camp

	of the voluntary committee model. Options should be discussed with communities.	situations or for institutions. Community latrines in any other circumstance will not be supported due to the proven challenge of ensuring on-going maintenance, unless part of a pay as you use, self-funding business which is profitable enough to ensure on-going management.
11 Management capacities, baseline skills, education & capacities	The baseline skills of the community, (such as in management, whether the population is literate, if there are technicians present already in the community), will influence how appropriate different technologies and management systems are for particular communities. Some skills can be learnt.	A focus will be made on capacity building of civil society & where appropriate the private sector for the longer term operation, maintenance and management of WASH facilities. Community members will be involved in constructing all facilities and those who will be responsible for maintenance will play a key role in the construction. A minimum of 5 people will be trained in the maintenance of the scheme (even if one or two have the key responsibility for this) and a number of people trained for each key role. Training will also include the importance of handing on the skills learnt to a new person if that person subsequently leaves the village.
12 Existence & enforcement of rules	Clear rules which govern the facility or intervention and a system which ensures that if they are broken the person has to pay a fine as part of the enforcement of the rules, will contribute to sustainability. If rules exist but are not enforced, they will increasingly be ignored.	The agency will help communities to set up their own rules over the use, management and payment for on-going costs of facilities and also mechanisms for enforcing the rules. Community leadership and those involved in the management of the facilities should be involved in this process as well as the community members and all should be aware of the rules and mechanism for enforcement.

FACTOR	COMMENTS	SUMMARY OF GOOD PRACTICE PROPOSED ACF-IN APPROACHES
FACTORS INTERNAL TO COMMUNITIES OR INFLUENCED BY THE PROJECT DESIGN		
13 Community sense of ownership & legal ownership	If community members do not own or do not feel a sense of ownership of a water facility or sanitation system or hygiene facility, then management is likely to fail. When there is a strong sense of ownership then it is more likely that effort will be made to maintain and repair a facility. Private ownership and operation of water systems can overcome the need for community ownership and can be successful as long as the private owner gains enough financial benefit from running the system.	Where there is no legal ownership of facilities, a range of efforts will be made to try and foster a sense of ownership. Examples include: making efforts to ensure there is a demand for the project before approval of the project, ensuring that the whole community understands the project and their on-going contributions and approves the project, expecting a contribution to the capital costs of the construction etc. Communities (both women and men's opinions will be taken into consideration) will be given options for the project technology and management system and will choose the options most suited to their priorities and context.
14 Community commitment to the project, willingness & ability to pay for recurrent costs	If the wider community understands the project and is committed to the project and is willing and able to pay for the recurrent costs for operation and maintenance of the facility, then the project is more likely to be sustainable. If the community (or household in relation to household level wells or latrines) do not understand the project and their role in paying for ongoing operation and maintenance of the project, then it is more likely to fail.	ACF will try to ensure that there is a community (or household) sense of ownership of the project (refer above). The community will have to commit to the contribution of longer term operation and maintenance costs and a mechanism for collection and management before the project starts. The costs of management, operation and maintenance should be in line with the capacity of the community to pay and the mode of payment decided by the community.
15 Willingness & ability to pay for major rehabilitation or replacement	If communities understand that when the facility eventually fails and can no longer be maintained it will need to be replaced and are able to raise the money to replace it, or undertake major rehabilitation, then the service level is more likely to be sustained over the longer term. Repli-	Wherever possible simpler technologies will be promoted or those which communities will be able to replicate themselves as this will enhance the likelihood of the community being able to sustain a continued level of service after the initial facility has a major breakdown.

	cation or major rehabilitation by communities themselves is more likely if the technology is simple. For latrines, this means that the owner understands that when the latrine is full that the pit will need to be covered over and the latrine structure moved to another location and put on a new pit.	
16 Appropriate service level & technology	The more simple the service level, the more likely the community will be able to operate and maintain the technology. If the technology has been designed and is made locally, the spare parts are more likely to be available, for example a rope pump versus an India Mark II handpump (in a situation where the India Mk II pump is imported).	ACF will aim to support the simpler technologies and where spares can be sourced locally and which are of village level operation and maintenance (VLOM). Where handpumps are supported and spare parts supplies are weak, other options will be considered. ACF will pay particular attention to water quality issues to ensure that the water source provides good quality water over the longer term. This will include checking for arsenic before constructing the facility, ensuring that the well is fully developed to prevent ingress of mud and small particles which may make users reject the source, and checking for the presence of other chemicals which may make the users reject the water such as iron or chloride. Wherever possible alternative sources should be sought should such a problem be present.
17 Appropriate methodologies for encouraging and reinforcing good hygiene practice	Effective hygiene behaviour change for some behaviours, can take a long time to occur. It is recognised that for many behaviours that repeated reinforcement of the messages and engagement of community members over a longer period of time are likely to encourage more sustained hygiene behaviour change.	ACF recognises that to be able to improve hygiene practices that the users need knowledge, commitment and facilities to do so. ACF will therefore always consider the provision of items such as water containers, washing bowls, storage containers, kettles etc – whether donated or sold at a reduced price. ACF will make efforts to use a variety of techniques for disseminating good hygiene practice and to undertake repeated activities over a longer period of time to ensure reinforcement of the same. Community mobilisers will be trained and supported over a period of time (including under subsequently funded projects).

18 Systems appropriate to livelihoods	Where people gain benefit for their livelihoods, such as water for cattle, water for kitchen gardens or brick making, then this influences positively on sustainability as there is more reason to contribute to the upkeep of the facility and there is additional income to be able to pay towards its upkeep.	Wherever possible, ACF-IN will support water projects which provide water for livelihoods as well as for domestic use. If this is the case care will be taken to ensure that all, including the poorest or people from minority groups, will be able to benefit from the project.
19 Environmental sustainability	Cutting down trees can damage spring sources, reducing the yield and locating boreholes in dryland areas can have significant environmental impacts.	ACF will consider the effects on the environment by the projects and consider the potential effects of the environment on the water source or other elements off WASH.

B.1.2 MANAGEMENT MODELS

The management system for a WASH related facility over the longer term is a crucial element for a system's longer term sustainability. The management system must be suitable to the community, its size, dynamics, the preferences of the community and to be appropriate to the local politics and community capacities. This section highlights the different models which have been used and continue to be used for the management of water supply and sanitation facilities in rural and low income peri-urban areas, some supported by ACF-IN and some by others. A number of key documents have been used for developing this section without reference in the section[42], and others have been acknowledged within the text.

42 / The following documents have been used to provide key information in the section on Management Models:

- Harvey, P.A. and Reed, R.A. (2004) 'Rural Water Supply in Africa, Building Blocks for Handpump Sustainability', WEDC
- McGranahan, G, Njiru, C, Albu, M, Smith, M & Mitlin, D (2006) 'How Small Water Enterprises Can Contribute to the Millenium Development Goals, Evidence from Dar es Salaam, Nairobi, Khartoum and Accra', WEDC
- Nkongo, D (no date, but post 2003) 'Regulation and Sustainability of Rural Water Supply Projects – What can we do better?', WaterAid, Tanzania
- Sansom, K, Franceys, R, Njiru, C & Morales-Reyes (2003) 'Contracting Out Water & Sanitation Services, Vol 1, Guidance Notes for Service & Management Contracts for Developing Countries', WEDC
- Sutton, S (2004) 'Self Supply: A Fresh Approach to Water for Rural Populations', WSP, RWSN, DFID, November 2004;
- Sutton, S (2007) 'Introduction to Self Supply', July 2007

Managing water supply facilities
The management of the facility has a number of tasks and responsibilities, which may be shared between different actors. These include[43]:

Regulation:
- Economic regulation – of price, service quality and competition
- Environmental regulation – of water abstraction & discharge
- Public health regulation – of drinking water quality

Financer:
- Facility (Capital)
- Operation and maintenance
- Replacement

Manager

Implementer
- Facility
- O&M

What are the options for management? Are there existing structures or institutions who could manage the project & facilities? If so, what capacity building or institution building is needed?

B.1.2.1 Self supply & managed at household level

Household managed or 'self supply' may be used for toilet facilities, hygiene facilities, water supply or waste disposal. Self-supply is based on incremental improvements and steps which are easily replicable, undertaken through user investment at levels affordable to the user. WASH facilities owned and managed by households at family level are often the most sustainable options, but can be more expensive in capital outlay to cover the same number of people and may be difficult for some water source options (e.g. more likely to be possible for rainwater harvesting, shallow wells or birkads than for deep boreholes or gravity supply schemes).

Family water supply with sale of water to neighbours

A family in Mandera town, northern Kenya, has constructed a large square shallow well and pumps the water to a raised tank. The family then allow the neighbours to use the water at 2 Ksh / 20 litre container.

43 / Harvey, P.A. and Reed, R.A. (2004) 'Rural Water Supply in Africa, Building Blocks for Handpump Sustainability', WEDC

Household management of toilet facility, Kenya

Household toilet in Farey Village, in an arid area, Mandera District, northern Kenya constructed by the house owner with subsidy only of cement and reinforcement bars

Household management of toilet / bathroom facility, Colombia

A household toilet / bathroom in Villa Luz Villages, Tierralta, Córdoba, Colombia

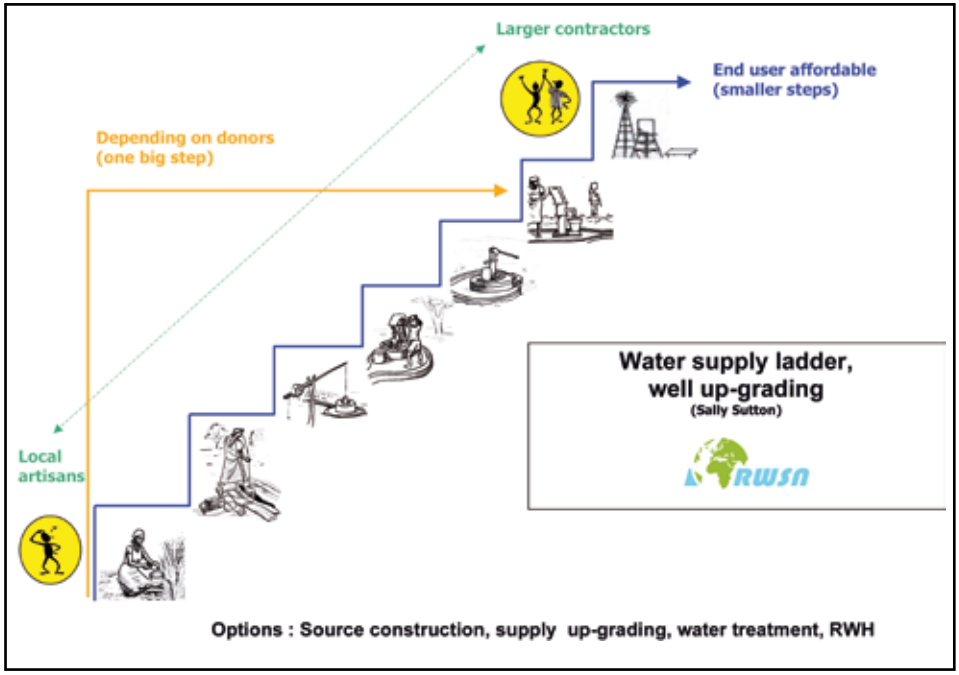
Self Supply [44]

'Every year, thousands of rural householders and small groups invest in traditionally dug wells and scoop holes to provide convenient water supplies which they manage and maintain themselves. These water sources number over a million in Africa alone. Many rural people value these sources for convenience, taste, productive use, and, most importantly, the sense of ownership and control bestowed, and are increasingly investing large amounts of effort, cash and kind to have their own supplies. However, policymakers tend to regard them as a liability to be replaced rather than improved or augmented, and rural water supply strategies continue to concentrate on communal supplies for 200 to 500 people'. 'Self supply is the improvement to household or community water supply through user investment and is based on incremental improvements in steps which are easily replicable, with technologies affordable to users. It is complementary to communal supply which forms the backbone of rural water supply, but which is not equally sustainable everywhere, and is inadequately funded to reach the MDG target in sub-Saharan Africa. Self supply at household or community level generally implies strong ownership but also sharing of the supply with those households nearby, usually at no charge, offering effectively a privately managed communal service'. 'Self supply builds on the widespread desire of the rural poor to

44 / Sutton, S (2004) 'Self Supply: A Fresh Approach to Water for Rural Populations', WSP, RWSN, DFID, November 2004; & Sutton, S (2007) 'Introduction to Self Supply', July 2007

invest in solutions that benefit their small group or household directly, rather than as members of what are often scattered or discordant communities. It includes:

- Improved availability of water from an increased number of supplies (such as traditional sources and rainwater harvesting);
- Improved water quality (through source protection, improved water source protection, improved water collection and storage practices, and household water treatment); and
- Improved water lifting for multiple uses, both domestic and productive.



Why consider self supply - It is a worldwide phenomenon, that people who are able to, respond to the inadequacies of what the public sector can offer. It also reflects the wish to use water for multiple purposes both productive and domestic, which is usually difficult from communal supplies.

Supply inadequacies are at present especially to be found in:

- Small communities (say of less than 200 people).
- Communities with widely scattered households.
- Communities with weak / fragmented management.
- Remote areas where access to maintenance services and spares is difficult.
- Areas where potable ground and surface water are lacking.
- Zones within larger communities which are peripheral to communal supplies and with closer access to household ones.
- Households which cannot afford to pay water tariffs.
- Water quality for more than 40% of households carrying water from the source.

Particular value of self supply in emergency and recovery periods [45]

- Higher sustainability in times of stress, communal supplies generally more vulnerable.
- Skills and attitudes developed in emergency transition can form the basis for future development.
- Offers alternatives to community management in fragmented communities.
- Facilitates food security and income generation in recovery period.

For more information on self supply:
Rural Water Supply Network, **www.rwsn.ch**
Sally Sutton, RWSN Self Supply Coordinator **(sally@sallysutton.fsbusiness.co.uk)**

Comparison of conventional and self-supply options [46]

CONVENTIONAL COMMUNAL SYSTEMS	SELF SUPPLY OPTIONS
Best suited to nucleated, homogenous communities with good leadership	Suited to individual households and small groups
Technologies available for a wide variety of conditions, with greater flexibility in siting	Easily established where water is within 15m of surface or rainwater adequate, or treatment for stored water in the house
Focuses on outside knowledge and remote technologies	Builds on local knowledge, attitudes and skills
Serves large numbers of people, who may or may not form a community	Serves households or small groups forming natural management units
Safety and quality of water usually assumed, not always correctly; perceived value among users may be less than assumed	Significant improvements in water quality, comparable to fully protected communal shallow wells, but at much reduced cost; high perceived value among users
Generally marketed for health benefits; income generation often difficult because of communal ownership	Often generates multiple benefits including income, improved nutrition, and local employment
Depends on committee management which is not traditional and may take time to develop	Well-defined ownership and management by individual or well-established group
Provides good water within 0.5 to 1 km, but households may have nearer alternative sources	Provides good water, usually within household boundary or within 100m
Requires large investment per unit, and very high subsidies (usually around 95%, typically USD15-20 per capita)	Low cost means that subsidy can be less than 50% (Zimbabwe 20%) (typically USD3-5 per capita)
Rapid construction, but construction teams not involved in maintenance	Rapid small changes, slower process to reach final product, construction teams also do maintenance

46 / Sally Sutton, Oct 2007
46 / Sutton, S (2004) 'Self Supply: A Fresh Approach to Water for Rural Populations', WSP, RWSN, DFID, November 2004

Long-term maintenance is expensive, requiring heavy equipment and transport	Regular and long-term maintenance can be carried out by local artisans, including re-deepening at low cost
Higher standards from the start but sustainability may be low	Gradual steps towards high standards, each bringing sustainable improvement
Often donor driven	Develops directly from local demand

B.1.2.2 Institution managed

Institution managed may include toilet facilities, water or solid waste facility managed by a school or health institution. Institutions can manage facilities effectively if there is committed management and a source of income to operate and maintain the facilities, including in particular the cleaning of toilet facilities. Additional income generating support can also be helpful to cover longer term operation and maintenance costs when support from the State is limited.

Institution managed toilets, Colombia

Toilets in Las Mujures village school, Moñitos, Córdoba Department, Colombia with water and hand-washing facilities.

School managed kitchen, Colombia

The Alianza Por El Progreso school in Montelíbano, Córdoba Department, Colombia, purchased its own water filter and maintains it with income generating activities undertaken at the school

B.1.2.3 Community committee, CBO

Management by community water and sanitation committee (using a range of different names) is one of the most common models of management for community based water supply. Some may register as a CBO after forming as a committee initially.

EXAMPLES AND RELEVANCE	DESCRIPTION & COMMENTS
• Community water & sanitation committee. • Community based organisation (formal or informal). For examples of good practice which respond to some of the challenges committees face, refer to Section B.2 – challenges relating to: • Gender & equity. • Building trust of committees to collect and effectively manage the communities' funds and stopping misuse or the 'eating of money'. • Managing O&M. • Helping to ensure sustainability of committees over the longer term and the continuation of the benefits of the water, hygiene and sanitation facilities.	Committees may come in a number of forms, and may be set up as sub-committees of formal government structures at village level, or as stand alone committees. Many are voluntary but in some places the members receive remuneration such as a percentage of the water tariffs collected. The committee may be informal, or understood as a formal part of the community leadership structure, or may be formerly registered as a Community Based Organisation. Often committees are introduced with a democratic election system, but other times they may be selected by the leadership (whether this is transparent or not to the outside agency). Where there is a strong traditional power structure, such as in pastoralist communities, where women have a limited involvement in the public and decision making sphere, it is likely that it will be challenging to sustain effective democratically elected committees and women's involvement. 'While community management is based on the well-intentioned principle of encouraging ownership and empowering communities, it also acts as a convenient concept for shifting responsibility for ongoing operation and maintenance and, and hence sustainability, of services from facility provider to end-user.' Some challenges with the Village Level Operation & Maintenance (VLOM) concept include: • Community sensitisation or mobilisation does not automatically lead to a willingness to manage or finance water supply over a prolonged period of time. • Government and support agencies do not understand the need for appropriate support systems, perhaps in part because the VLOM concept created complacency. • There has been a widespread misconception that governments can be side stepped in the process of service delivery by external support agencies. • Community dynamics are complex and problems such as misuse of funds and disagreements can cause problems which lead to the malfunctioning of the committee'.

In some cases committees can be used to help reinforce social cohesion as part of the recovery from disaster or conflict, but a lack of social cohesion also poses challenges to the success of the voluntary community committee model of management.

Community committee which is a sub-committee of the Community Council, Colombia

The community in Las Mujeres village in Moñitos Municipality (sub-region), of Córdoba Department (region), Colombia, have a water committee which is a sub-committee of the Community Council, which is the lowest level of the government structure in Colombia. They manage a pumped water scheme from a reservoir, ration water from three large rainwater harvesting tanks, provide hygiene promotion advice and manage the water and sanitation projects in the village. The picture opposite is some of the water committee members, some of whom are also on the Community Council. They are showing some of their record keeping documents and receipts for the finances for the community water funds. The community water funds are used for managing and maintaining the water systems and also for helping to improve individual householders' water storage capacity and other projects.

Community water committee, which receives a payment as a % of the revenue from a community system where the community added in household connections, Lao PDR

The community in Tha Phao Donpay village, in Sing District of Lao PDR, were supported by ADRA to install a community water supply system from a spring in a neighbouring village. The community decided they wanted a higher level of service and continued to pay for and connect household connections to every house. The community now pay for the water they use by a household meter and the community committee receive a % of the revenue for their work.

Community committee which is stand alone as a committee in the village, Liberia

The community in Gboyouta village in Kokoyah District of Bong County in Liberia, have a stand alone committee with members – Chair, Secretary, Treasurer, Hygiene Promoters, Village Pump Mechanics. The Secretary, Treasurer and Chairman are pictured here with one of the ACF social mobilisation staff.

The committee manages the village water pump, undertakes hygiene promotion activities in the households and the VPM undertake preventative maintenance each 3 months on the handpump, as well as undertaking repairs. The village has faced some problems in the past of mismanagement of funds at the beginning of the project and also some problems of relationships within the committee, but with some on-going occasional support from ACF they are working through their problems.

B.1.2.4 Small scale private provider / small water enterprise

There are a wide range of private small scale water providers or small water enterprises. Refer below.

EXAMPLES AND RELEVANCE	DESCRIPTION & COMMENTS
• Area based mechanics. • Individual mechanics and technicians. • Small shop where spares are sold as part of a supply chain. • Borehole owner who sells water privately to other users. • Local entrepreneur who manages and undertakes O&M of a community owned water supply facility. • Water seller – who sells water from a kiosk. • Water distributor - who uses donkeys, carts or wheelbarrows to supply users. • Water tankering service. • Pit latrine / septic tank emptying service by vacuum truck.	As can be seen by the list in the column to the left there are a wide range of roles that small scale providers take in the supply of water and sanitation facilities. SWEs not only provide a useful service in areas where the piped supply or sewerage systems are limited, but also provide an employment and income generating opportunity. The following is an overview of a few of the different types of small water enterprises (SWEs)[47]: There is a considerable variety of the nature and scale of SWE activity: • There may be different types of SWE in the same city or settlement, supplying different types of customer. • Some work independently and some hire carts and other equipment while some are employed by others who take a percentage of the income. • The type of activity will vary depending on the situation, the water resources and topography or whether the location is urban or rural. Some example of SWE types:

47 / McGranahan, G, Njiru, C, Albu, M, Smith, M & Mitlin, D (2006) 'How Small Water Enterprises Can Contribute to the Millenium Development Goals, Evidence from Dar es Salaam, Nairobi, Khartoum and Accra, WEDC

EXAMPLES AND RELEVANCE	DESCRIPTION & COMMENTS
• The manufacture and sale of toilet pans and slabs and other associated items.	• **Re-sales** – Individual households that have piped water often sell their water on to neighbours even when this is illegal to do so. In several cities SWEs have concessions to sell water from kiosks. Kiosk operators are in a good position, but they need to rely on local goodwill, so need to keep their prices down. • **Distributing SWEs** – water carriers – Water carriers either carry manually or on hand-carts, bicycles or animal drawn carts. They are often male and come from the low income houses they often serve. • **Distributing SWEs** – tankers - Tanker lorries require a much higher outlay and often supply the higher income customers and those who require bulk supplies. • **Private water supplies** – In some locations, alternative water sources may be used in addition to utility water supplies. They may obtain water from wells. In some places the SWEs supply more than 30% of the total local supply for example in Tegucigalpa (Honduras), Lima (Peru), Guatemala City and parts of Turkmenistan and Uzbekistan. • **Bottled or pre-packed water** – Sales of small volumes of water in bottles or sealed containers or plastic bags are a relatively recent development. See the example of the coverage by SWEs in Dar es Salaam below.

Small Water Enterprises (SWEs) in Dar Es Salaam [48]

The percentage coverage (by population) by various water service providers in Dar es Salaam:

- Utility water coverage through direct connections – 42%
- Communal utility kiosks – 4%
- Utility water resellers – 35% (people with connections to their properties who re-sell water)
- Tanker trucks – 2%
- Pushcart vendors – 2%
- Private and communal boreholes – 13%
- Unprotected sources – 2%

Private water seller in northern Kenya

The private owner of the borehole and water tank and associated infrastructure sells a large percentage of the water supplied by donkey cart in Mandera town in northern Kenya. The water is sold at 10 KSh per 200 litre barrel and the donkey cart owners sell the barrel from between 50 – 100 Ksh per barrel depending on the distance from the source.

The owner is meant to chlorinate each tank of water and the local Health Department monitor the chlorine residual and microbiological quality. The owner constructed and maintains the well and pump and engine and Islamic Relief contributed the concrete tank.

48 / McGranahan, G, Njiru, C, Albu, M, Smith, M & Mitlin, D (2006) 'How Small Water Enterprises Can Contribute to the Millenium Development Goals, Evidence from Dar es Salaam, Nairobi, Khartoum and Accra, WEDC

Local entrepreneurs of community owned water supplies, Dodoma Region, Tanzania [49]

The use of 'Agents' in Dodoma Rural District

In 5 of 6 villages studied in Dodoma Rural District, the water supply is managed by what is known as an 'Agent'. The study found that when an Agent was managing a water scheme a good flow of money was going into the water fund account, although it did not reflect the actual income and expenditure. The communities had both a contract and a bond with the Agent and also used a bidding process for the Agent to be selected. The bidding sets how much the Agent will deposit each month to the water fund and is not related to the actual costs (including the sum required for maintenance). Most of the Agents take over the management of the water schemes during the dry season and hand them back to the community during the rainy season. Where there is an Agent, it was seen that the Water Committees had been unsure of their role and instead of regulating the Agent the committees had been dormant, but the flow off money into the account was more than in committees managed by the water committees.

Private providers in Mpwapwa District

Out of 58 villages and hamlets in Mpwapwa district, 55 have water projects managed by a committee and 3 have schemes managed by private operators (and another tried but failed). 2 of 6 villages which were studied in Mpwapwa District used private providers for managing the water supplies. All of the schemes studied had small savings. The income from the water supply where private providers were used was divided approximately as follows: water committee (39%), private provider (41%) and O&M (20%) but this did not relate well to the O&M requirements of the schemes. In the villages water payment is managed by the water committee or a private investor but under the supervision of the village government. In villages where the scheme is managed by the water committee the price varies from 10 to 20 TSh per bucket, while for schemes managed by the private investors, the price varies from 40 to 50 TSh per bucket. Water payment is made either in cash or in grains. Involvement of the private providers has resulted in more sustainable services and less interference by the village governments, but the cost is higher for the users.

Private producers of sanitation products, Bangladesh [50]

In Bangladesh by the mid-eighties, the private sector was becoming involved in the manufacture of latrine components, and some support was provided to these small private production centres by the UNICEF/DPHE project. The intensive social mobilisation campaigns mounted in the 1990s appear to have stimulated demand and these private producers were successful, despite competition from the subsidized public and NGO production centers. There are now more than 3,000 private latrine production centers around the country.

A DANIDA evaluation in 1999, identified 'that the reason that the private production centres succeeded was that they were perceived to offer a wider variety of products, to be more flexible, to allow payment in instalments, to provide installation services, and to offer simpler, and thus cheaper, latrine designs than those available from the public producers'.

49 / Nkongo, D (no date, but post 2003) 'Regulation and Sustainability of Rural Water Supply Projects – What can we do better?', WaterAid, Tanzania and WaterAid, Tanzania (no date) 'Comparison Between Water Committee and Private Sector Modes of Managing Water Supply Schemes in Mpwapwa, Small scale private sector participation Mpwapwa case'
50 / WSP (2000) 'Developing Private Sector Supply Chains to Deliver Rural Water Technology, The growth of private sector participation in rural water supply and sanitation in Bangladesh', WSP-East Asia

Shop keeper who also supplies spare parts in a rural area, Liberia

The ACF Liberia programme has been supporting local shop keepers in the areas they are working to become part of a supply chain for the fast moving parts of the Afridev pumps. Liberia is currently recovering from a 14 year old violent civil war and the infrastructure and institutions of the country were highly damaged.
ACH is currently still playing a part in the supply chain and artificially suppressing prices in agreement with the shop keepers, but is now working out its strategy to remove itself from the supply chain to hopefully make it self sustaining. There is currently no national support for supply chains (except a few mentions in documents) and so there is also a need for more advocacy at national level to bring this issue to the priorities of the major donors and actors.

B.1.2.5 Cooperatives, Women's Groups, CBOs

A Cooperative who owns and manages a facility and shares the profit between its members, an existing Women's Group, or other community based organisations can also manage water facilities or other WASH projects. The income may be used for other CBO or community activities.
A cooperative or a women's group managing a water supply system can be an effective solution, which overcomes some of the problems related to community dynamics and problems surrounding the collection and expenditure of funds which often occur as long as the cooperative or women's group has effective systems and agreed rules for use and distribution of the funds.
A 'community based organisation' may come in a range of different forms and may be formerly registered as a CBO or may be unregistered but operating as one. If the CBO is formerly registered this can add legitimacy to the organisation and it may have paid staffs that have responsibilities for work undertaken under the organisation. They may also be able to have a bank account, and the laws governing CBOs may assist in ensuring that accounts are kept and in some cases audited.

CBO turned NGO providing a waste management service in peri-urban areas of Liberia

The Community Empowerment and Development Association (CEDA) was formed from a local CBO from some of the low income peri-urban communities in Monrovia, Liberia.

CEDA mobilises community members to clean refuse from the peri-urban areas and runs a household collection scheme using oil drums and a hired vehicle once a week for which it charges a fee. With this fee it manages to pay the people undertaking the cleaning activities a small incentive and also pays for a few staff wages. They struggle however with no formal sponsor or organisation to support them and having to hire a vehicle to move the 140 drums with refuse to a disposal site.

Women's Group managing a water pan in northern Kenya

Karmor earthpan committee is an existing women's group on the outskirts of the town of Mandera in northern Kenya. The Karmor Women's Group has over 50 members but only some of these members manage the earth pan. The group use the money from the selling of water from the earthpan to share with their wider membership, in a way that it is provided when someone is most needy. They sell the water by jerry can but if people are very poor they can take water free.
AAH-US has supported the existing group to improve their pan by deepening, fencing the pan, adding an improved inlet, adding an infiltration unit for extracting the water, a cattle trough and a water tank for collecting water in jerry cans.

B.1.2.6 Associations, Water User Groups, Area Based organisations

EXAMPLES AND RELEVANCE		DESCRIPTION & COMMENTS
Association of community water providers	• An association of a number of community water service providers.	This is an association which is formed for the purpose of supporting community water service providers – with services such as technical support, capacity building in administration and finances, acting as a link to government and in advocacy. See the example below of the association from Colombia.
Area based organisation (ABO) [51]	• Elected representative organisation for managing development in peri-urban areas	This model has been used in Lusaka Zambia where a reasonably large water system is being managed by an 'Area Based Organisation (ABO). 'The Chipata water system is being managed by the ABOs with support from CARE, and specific financial support from the Council [Lusaka City Council, LCC], and operations assistance from Lusaka Water & Sewerage Company (LWSC). A strong emphasis has been placed on developing linkages between the ABOs, Council staff and Councillors, and new initiatives being undertaken together by ABOs and Council without direct project involvement'.
Water User Associations or Groups	• For drinking water and domestic use. • For irrigation.	Water User Associations or Groups can be helpful in ensuring that the water users have clear information on the management and distribution of their water resource and have an opportunity to influence this decision. Refer to Section B.1.4.2 for an example of Water User Groups for domestic water as supported by the ACH Azerbaijan programme and below for information on the Law relating to Water User Associations in Tajikistan (for irrigation). The law in Tajikistan has clear requirements for structure, audit and dispute resolution.

51 / CARE (1998) PROSPECT (Programme of Support for Poverty Elimination and Community Transformation) Project Summary (updated July 1998)

AQUACOL, Association of community water system providers [52]

Context:

Of the 25,000 WASH services organisations in the country, 80% are community based. The 58.6% of the community based organisations take care of the population of less than 12,500 inhabitants. There is weak institutional support, a lack of negotiators at institutional level and weak management at community level. There are also deficiencies in WASH systems and high costs in provision of water and sanitation services. There is also a small capacity for communities generating low income to pay.

Objectives of AQUACOL:

- To contribute to improve the provision of water and sanitation services that the different community organisations support through offering a consultant's office and capacity in administration, organisation, technicians, financers and monitoring & control.
- To provide an economy of scale between the different organisations for the realisation of activities – such as for the quality of service, the operation and maintenance, dosing, measurement, accounts handling, accomplishment of projects and management of resources.
- To be a bridge of communication between the communities and requests to / of the local, department (regional) and national level, and to provide access to information, capacity and attainment of resources.
- To influence national policies, including Law 142, Law 99 and other regulating standards.
- AQUACOL organisation – Assembly of Partners (24 Organisations), Board of Directors, President, Vice-President, Treasurer, Secretary, Consultant / Public Prosecutor (fiscal), 3 members, tax inspector (fiscal auditor).

Membership:

- 24 community organisations, representing 111 communities.
- 67.8% of the communities have populations smaller than 2,500
- There are less than 500 subscribers of households (in Colombia there is a differentiation between organisations who have less and more than 2,500 householder subscribers, which are known as 'Smallers' and 'Biggers' respectively).
- 57% of the member organisations are Associations of Users, 21% are Cooperatives, 18% are JAA (a board / committee of the community members specialised only in the water system administration) and 4% JAC (a board / committee of the community).
- 81% have legal status.
- 65% have defined a single tariff of 2,000 – 10,000 Colombian peso and 35% have a tariff stratified between 2,000 and 10,000.
- 81% of the systems are gravity, 19% have a system of water treatment and a sewage system, 58% supply crude water, 38% have system of Multi Step Filtration treatment (FIME), 4% have pumping systems and 10% collective residual treatment for sewage.

52 / Asociation de Organizaciones Comunitarias (no date) 'Prestadores de los servicios De Agua Y Saneamiento de Colombia, Aquacol' powerpoint – Association of Community Organisations, Providers / Lendors of Water & Sanitation Services of Colombia, Prestadores De Los Servicios de Agua Y Saneamiento De Colombia.

Tajikistan, Law on Water User Associations
'This law regulates the legal framework of the organisation, activities and management of Water User Associations as non-profit organizations for the operation and maintenance of irrigation systems in the public interest[53]'.
It defines Water User Associations, Water User Groups, the responsibilities including for operation and maintenance, and who is entitled to collect fees and for what and dispute resolution. The irrigation systems are not 'owned' by the WUA, but they have a right to use them.
Includes details of the responsibilities for each of the management bodies:
- General Meeting of the Water User Association members
- Board of the Water User Association
- Audit Commission of the Water User Association
- Dispute Resolution Commission

B.1.2.7 Public contracting out, public-private partnerships & other

Public contracting out, public-private partnerships and other models of management are also options for the management of WASH services, often used in urban areas and on a reasonably larger scale, although not exclusively.

AREAS	EXAMPLES AND RELEVANCE	DESCRIPTION & COMMENTS
Government contracting out to community groups / cooperatives	• A utility or water department contracting out to / working with community groups / cooperatives.	A utility contracting out to, or working with, community groups or cooperatives for the provision of services may be particularly advantageous where there are land tenure issues such as in informal settlements[54].
Public – private partnerships (PPP & PSP)	• To-date in Africa, most PPPs relevant to the rural sector apply to the delivery of improved water systems and facilities only, rather than the operation and maintenance of these. There are some successful examples of ongoing private sector service provision but so	'An agreement between the public sector and a private sector entity, whereby both parties share risks, responsibilities, and in some cases investments. Inviting participation of the private sector has recently been recognised as a means of making water supply & sanitation services more efficient and cost-effective, whilst raising revenue to improve long term sustainability and generate investment for new infrastructure'. 'Privatisation of public water companies can release public funds for other development activities and reduce administrative burdens'. 'The public – private model still requires the government to act as facilitator and regulator (though NGOs can also fulfil this role for small scale projects) but the onus is on the private sector organisation to provide a water service and collect revenue from the users, who

53 / Taken from an unofficial translation by WinRock, Tajikistan
54 / Sansom, K, Franceys, R, Njiru, C & Morales-Reyes (2003) 'Contracting Out Water & Sanitation Services, Vol 1, Guidance Notes for Service & Management Contracts for Developing Countries', WEDC

AREAS	EXAMPLES AND RELEVANCE	DESCRIPTION & COMMENTS
	far this has been limited, in part by the low number of attempts'[55]. • Long lease with mixed ownership companies (see example below). • Handpump-lease concept (see example below). • Manufacturer-NGO model. • Least subsidy bidding. Ref for the following examples[56]: • Service contract. • Management contract. • Build, Operate, Transfer contracts (BOT). • Concessions.	in effect finance the service'[57]. **Manufacturer – NGO model (noted in relation to handpumps)[58]**- The NGO (which could be replaced by the local government) takes the lead role but has a strong partnership with a private manufacturer which provides hardware (e.g. pumps and spare parts), technical advice and training. This model benefits the implementing agency as it has a private supplier of goods and services it can rely on, it benefits the manufacturer because it has a continued demand for its products over a long time and benefits the users in that they receive on-going institutional support and have access to appropriate equipment and services. The sustainability is limited by the continued provision of water systems by the NGO or government to sustain the interest of the manufacturer. **Least subsidy bidding[59]** - This model can be implemented when private companies bid for the minimum or least subsidy from government to provide water systems at agreed service levels for a period of say 10-15 years. The private companies negotiate the community contribution they will get for O&M. The Government then pays the minimum subsidy to the company and the communities pay their tariff. This model has been used for other sectors in Latin America and has the potential for the water and sanitation sector. **Service contract –** The simplest form of PSP whereby the public authority retains overall responsibility for services such as O&M except for specific components which are contracted out (usually 1-3 years contract duration). **Management contract** – More comprehensive arrangements where the public authority transfers responsibility to a private contractor for the management of a range of activities, such as O&M. Remuneration is usually based on a tendered fee and they often have an incentive based component (contracts usually 3-5 years up to 15 years). **Lease contracts -** Where a private contractor or lessor rents the facilities from a public authority and is responsible for O&M for a complete system and collecting the tariffs. The lessor generally buys the rights to the income stream from the utilities operations and assumes a significant share of the commercial risk. The lessor generally shares the working capital while the authority provides the capital investment (contracts usually from 5-15 years). **Long lease with mixed ownership companies for urban water supply –** This is where the public sector owns part of an urban water supply system (on a

AREAS	EXAMPLES AND RELEVANCE	DESCRIPTION & COMMENTS
		lease), and either a large private company or smaller private shareholders own other parts. The management for the operator may be keyed into revenues. **BOT –** A form of concession where a private form or consortium agrees to finance, construct, operate and maintain a facility for a specific period before transferring the fully operational facility (at no cost) to the government or other public body (the contract period is normally greater than 20 years to allow the private contractor to pay off loans and achieve a return on investment). **Concession –** A private company takes on full responsibility not only for the O&M of the utilities assets, but also for investments, often for a whole city. Asset ownership remains with the government and the bid is often won by the operator who offers the lowest tariffs (contracts usually over 25 to 30 years).
Government service model	Not very common today in rural areas of developing countries, but is still applied in some countries, for example in South Africa[60]. Also some peri-urban areas are still provided by public systems.	The government is solely responsible for rural water provision and funds all initial and on-going costs associated with it. The private sector may be used to deliver the technical services but the community is not expected to contribute to the cost of O&M and there is no attempt at cost recovery.
Primary health care model	Where the provision of water supply falls under the auspices of primary health care under the Ministry of Health[61].	This model relies on a primary health care institution which is responsible for delivering healthcare services through clinics and community visits. The doctors, nurses and TBAs and healers work alongside water technicians who are responsible for the implementation of new water systems and maintenance of existing facilities. They are also responsible for taking care of the healthcare vehicles and other mechanical and electrical equipment. The technicians are paid by the healthcare institution while the communities pay for the cost of the spare parts provided by them. This model was used in Liberia. Today as the country tries

55 / Sansom, K, Franceys, R, Njiru, C & Morales-Reyes (2003) 'Contracting Out Water & Sanitation Services, Vol 1, Guidance Notes for Service & Management Contracts for Developing Countries', WEDC
56 / Harvey, P.A. and Reed, R.A. (2004) 'Rural Water Supply in Africa, Building Blocks for Handpump Sustainability', WEDC
57 / Sansom, K, Franceys, R, Njiru, C & Morales-Reyes (2003) 'Contracting Out Water & Sanitation Services, Vol 1, Guidance Notes for Service & Management Contracts for Developing Countries', WEDC
58 / Harvey, P.A. and Reed, R.A. (2004) 'Rural Water Supply in Africa, Building Blocks for Handpump Sustainability', WEDC
59 / Harvey, P.A. and Reed, R.A. (2004) 'Rural Water Supply in Africa, Building Blocks for Handpump Sustainability', WEDC

AREAS	EXAMPLES AND RELEVANCE	DESCRIPTION & COMMENTS
		to rebuild itself, County (regional) Health Teams are being re-established and they include environmental health technicians who undertake water and sanitation as well as immunisation responsibilities.
Public – public partnerships (PUP)	Where the provision of water supply falls under the auspices of primary health care under the Ministry of Health.	A public sector company assists in the development of another public sector operation. The use of 'twinning' as a mechanism of capacity building provides a prototype for PUPs'. 'The general notion of public-public partnerships is a form of international cooperation and action by whereby existing, experienced public service agencies partner others to help them build capacity, on the basis of mutual, not for profit, support'[62].

Public-private partnership and the handpump-lease concept [63]

'One example of a public-private partnership is the handpump lease concept. This has been successfully implemented in Lubango, Angola, since 1990, when several hundred handpumps were handed over directly to the local water company. Since that time the company has taken care of the maintenance and repair of these handpumps in the peri-urban and rural zone. Each family pays an equivalent of USD 0.40 to the pump caretaker each month and the revenue raised pays the pump caretaker's salary'.

Lease concept, mixed ownership companies for urban water in Colombia

Cartagena

Colombia has been noted as having a number of successes in the public-private partnerships for water supply – particularly noted in case studies documented by the World Bank. For example by Cartagena which is a mixed ownership company[64]. 'Colombia developed its own approaches to partnering with the private sector to deliver WSS services, under a scheme by which a municipality contracted operations under a long term lease concept to mixed ownership companies jointly owned and controlled by the municipality, an international private operator and local private shareholders'. Cartagena is owned by the municipality (50%), private partners (the main private partner, Aguas de Barcelona owning 46% and the other private shareholders owning 4%). The management for the operator is keyed into the revenues. A 26 year contract was agreed for the water supply and sewerage system in Cartagena in 1994, when WSS coverage was less than 70%. In 2005, it was noted that 99% of the population in Cartagena had access to water supply and 95% access to sewerage and over 1,000,000 people had received improved WSS. 'Over eighty percent of the connections were installed in poor neighbourhoods. Services improved for existing customers. A 24 hours supply became the norm and nearly universal metering was achieved. Customer relations improved through greater transparency, more attention to service, more trust and better billing practice. Customers now wait less time fixing service problems, and the number of customer complaints declined significantly.'

Views on the success or otherwise of the private sector in Colombia WSS

Not everyone is convinced by the success of the private sector in Colombia. It is noted that in small towns the responsibilities have been given to the private sector (under Constitution 91), but the Government is trying to move back to centralised power & the small towns do not have enough money for implementation but have the responsibilities. Approx 80% of the towns (i.e. 950 out of 1110 Municipalities) have about 85% of the supply without treatment and 340 of the towns have a cross-subsidy system (35-40%) where the richer subsidise the poorer sections – but only where the poorer people are connected to the Municipal piped system – rural, semi-urban, peri-urban are not served.

In relation to the increase in tariffs Ecofondo notes in a paper sent to the High Commissioner for Human Rights[65] that it has been identified in the sector that in real terms between 1995 and 2000, that the costs to the users for their water supply and sewerage system have varied by 30% to 226% in the 18 main cities of the country. The increase varies depending on the layer (economic grouping) of people, with an increase between 1997-2002, of a 232% increase for layer 1 (the poorest economic group), 138% in layer 2, 110% in layer 3, 59% in layer 4, 43% in layer 5 and 39% in layer 6.

62 / SDC (2005) 'Water 2015, Policy Principles and Strategic Guidelines for Integrated Water Resource Management – IWRM'

63 / Van Beers, 2001a in: Harvey, P.A. and Reed, R.A. (2004) 'Rural Water Supply in Africa, Building Blocks for Handpump Sustainability', WEDC

64 / Water Supply & Sanitation Sector Board of the World Bank (date not legible) 'Local solutions improve water supply & sanitation services in Colombia'.

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B.1.3 RESPONDING TO FACTORS INTERNAL TO COMMUNITIES OR WHICH ARE INFLUENCED BY PROJECT DESIGN

B.1.3.1 Legal ownership of water and land community sense of ownership & demand

Legal ownership and community 'sense of ownership' of water sources and facilities

Legal ownership of water sources and facilities varies between countries and depends on their legal framework. In many countries either water is a common resource which is managed by the government or the government owns water and the citizens can have the right to use it for a range of uses under various legislation and permits. The Water Act in Kenya (2002), notes that the right to use water is vested in the Minister and that when a person operates a water service to more than 20 households or supplies more than 25,000 litres a day that they must have a licence. The Water and Water Resources Law (1996) in Lao PDR, notes that water resources and water are the property of the people of Lao PDR and that the government acts on behalf of the people of Lao PDR to manage and equitably share the use of water. Individuals and organisations need authorisation for use of water except for minor uses. Whether it is essential for communities to legally own a water supply facility or it is adequate for the community to have a sense of ownership is a point of debate. See the box below.

65 / Gladys Prada and Juan Camilo Mira (no date) 'Informe de la Sociedad Civil Colombiana al Alto Comisionado de las Naciones Unidas para los Derechos Humanos en Respuesta a la Decisión 2/104. Los derechos humanos y el acceso el agua, del Consejo de Derechos Humanos' – Report of Colombian Civil Society to the High Commissioner of the United Nations for Human Rights in answer to the Decision 2/104. Human Rights and Access to Water, of the Council of Human Rights.

The importance of legal ownership [66]

'Ownership is the root of successful community management. It is also one of the vaguest and most overused buzzwords in the sector, perhaps only second to 'demand' – for which ownership is often seen as a vital ingredient'.

'An important finding of the Participatory Action Research (PAR) is that legal ownership is crucial. Some of the 22 communities in the PAR project suffered greatly from conflict when different communities competed for the same source and ownership was disputed. In most countries, the community has not been given sufficient legal status to own a source or the system, and cannot therefore protect it. The point of sense of ownership is that community members behave as if they do own it, and people who own things (particularly poor people) do their best to protect them. If communities have no legal status or legal ownership, their 'sense of ownership' will be a sham and will soon evaporate'.

In many cases the government will effectively own the source, but will give rights to individuals and organisations to use the water.

Water ownership and water rights [67]

'It is important to distinguish between ownership of water, and the right to have access to water and use it. Regulation of the resource can only arise out of the recognition, explicit or implicit, that the government has the right to manage the resource for the public good. Most governments expressly own water, and the protection of the resource is therefore a public function to which individual rights are subservient.

The right to use water is based either on customary or statutory claims. In order to be regulated, these must be clearly identified. Customary rights may include the right to expropriate, use or trade water; based on these can be built systems of community ownership or use and water charges. While building upon existing systems is often the surest and most acceptable route to implementation, systems based only on customary rights may not be able to assure efficient and equitable allocation of a scarce resource.

A system of water law needs not only mechanisms of ensuring access to water (water rights) but also a system of obligations regarding usage and control of the levying of water charges by individuals (restrictions of rights)'.

The discussion over ownership, whether legal or a sense of ownership, is important because it will affect how likely an individual, community or organisation will look after and maintain a source or system over the longer term. Where governments have for many years owned all water supplies and been responsible for the provision of water, such as during the years of socialism in Tanzania and with centralised government provision in the former Soviet Union, it can be very difficult and time consuming to change attitudes to persuade people that they now 'own' a system and have the responsibility to operate and maintain it.

However, the difference between legal ownership and a sense of ownership is often overlooked and policies, strategies and project documentation may note a community's ownership of the water supply, but this is not backed up by the legal framework. ACF-IN should make sure that it fully understands the legal framework and design its approaches around this accurately, rather than making assumptions, even if these assumptions are widespread in the sector.

Ownership of water and ownership of land

The ownership of land can also affect the access to, and ownership of, water sources and systems.

66 / Schouten, T & Moriarty, P (2003) 'Community Water, Community Management, From systems to service in rural areas', ITDG Publishing

67 / Taken directly from the SDC (2005) 'Water 2015, Policy Principles and Strategic Guidelines for Integrated Water Resource Management – IWRM'

Where a person has ownership of land they may also own the water and have an absolute ownership right. If a community wants to use the water on an individuals land they will have to negotiate access and a right to use, but if that agreement is not legally binding the land owner can withdraw the right for the community to use the source or may make modifications to the land around the water source and hence affect the sustainability of the resource. This happened in Villa Luz village in Tierralta, Córdoba, Colombia, where the land owner cut the trees around the community source and hence reduced the yield.

The link between ownership of, and rights to access for land and water are particularly important in areas where there are people of mixed livelihood bases, such as pastoralists, farmers and hunter-gatherers and where customary and modern rights of access may conflict. Access to and control over water and land can both lead to resource based conflicts.

Ownership of water and land in Tanzania[68]

The Land Act of 1999 and the Village Land Act of 1999, identifies that all land in Tanzania is public land which the President holds in trust for the citizens of Tanzania. The President give this power to the Minster of Lands and the Commissioner of Lands makes sure that the laws are implemented correctly. The President can take away a person's right to occupy land and he can take land for the benefit of the public. There are three types of land – reserved land (managed under separate laws for various sectors relating to wildlife etc), village land (managed by the Village Councils on behalf of the Village Assemblies) and general land (managed by the Commissioner). Village land is also divided into 3 types (communal land, occupied land and future land). Villagers can hold 'customary rights to occupancy' or can be 'granted rights to occupancy'.

In terms of water in Tanzania, water is a 'common good resource' and all of the water in the country is vested in the United Republic of Tanzania and every citizen has equal right to use the nation's natural resources. You can only be given a water right of use through a licence issued currently through a regulatory authority (previously it was under the government department of water resources), but water facilities can be privately or publicly owned.

Demand

A 'Demand Responsive Approach' (DRA) was introduced in the 1990s and involves the communities being supported for projects they have asked for, or 'demanded', ideally after being able to make an 'informed choice' about a range of options and based on knowing the features of the options. If a community or a household 'demands' a project then it is expected that they will have more of a sense of ownership and be more likely to sustain the facility or project. It also links what the users demand and what they are willing to pay for in terms of level of service.

The problems with focussing on supporting communities which have 'demanded' projects is that those who demand may not be those with most needs, who may be more vulnerable and therefore also less likely to demand. In vulnerable contexts therefore there is therefore some conflict between wanting communities to demand a project in order to promote a greater level of sense of ownership and sustainability and supporting those who are more vulnerable and most in need.

Demand for some elements of WASH projects are however more difficult to find and this is in particular in relation to sanitation. People may not always demand sanitation in the same way that they will express a demand for water, although this may vary between communities and perception of the benefits.

68 / Various references:

- Wildlife Working Group (2004) 'Land and Natural Resources Law and Policy Syllabus, A Plain Language Guide to The United Republic of Tanzania's Land, Forest and Wildlife Laws and Policies', August 2004;
- The United Republic of Tanzania, Ministry of Water and Livestock Development (2001) 'National Water Policy (draft), August 2001;
- Personal communication - H. Kashililah, WaterAid, Tanzania, Oct 2007

The term 'unlocking the demand' is sometimes used for the process of helping people to realise what is possible and that they can demand.

Developing ownership through community choice, leadership and contribution - putting communities in charge

Arid Lands Resource Management Programme (ALRMP) in northern Kenya is a special programme of the Kenyan Government, part funded by the World Bank, with responsibility for the development of policy for the arid and semi arid lands in Kenya and improving drought management. It also implements programmes during all stages of the drought management cycle.

As well as emergency responses ALRMP responds to medium and long term development activities to help communities develop their capacities to be able to respond to drought. When starting to work in each community, ALRMP and its partners (usually government staff from different line ministries) spend 14 days in each community getting to know the communities, undertaking PRA activities and facilitating the community to identify and propose solutions to its own problems. Projects may be related to water, livelihoods, agriculture, health, education or other – it is up to the community to decide.

For community specific projects communities have to pay 30% of the capital cost of the projects, community artisans are trained to be able to implement the project, and they undertake their own procurement (i.e. they are given the money for the pump and engine if this is the project and they purchase it themselves). The ALRMP undertake follow up and may continue doing small activities in the village as part of the follow up. The follow up leaves them on their own and to see how they get on, but then with follow up visits. They split the communities into two groups 'extended', where communities are doing well and have extended the project activities, and 'basic' where they need more support. More attention is given to the 'basic' group of communities.

B.1.3.2 Effective management system for O&M and management of funds suited to baseline capacities

The management system for a facility, whether water, sanitation or hygiene related needs to be both effective and sustainable for long term impact.

Key elements of management for O&M [69]

- Planning – development of a strategy, objectives, and results to be reached – with what resources and in what time.
- Organization – distribution of responsibilities and tasks.
- Decision-making – taking decision on regular activities, as mandated.
- Coordination – harmonization of contacts between various actors, and communication.
- Control – supervision and enforcement.
- Monitoring – regular check and problem-solving.

What is community management?

- Social management – all aspects linked to the organisation of the community.
- Technical management – all aspects linked to O&M technical activities.
- Financial management – accounting, tariff setting and all aspects of O&M cost recovery.

Prerequisites for community management

- Demand to improve the system.
- Policy and legal framework for promoting community management.
- Effective external support, if required.

69 / Brikké, F (2000) 'Operation and Maintenance of Rural Water Supply and Sanitation Systems, A training package for managers and planners', IRC International Water & Sanitation Centre, WHO, Water Supply & Collaborative Council, Operation & Maintenance Network

- Information on system options, as well as on cost and technical implications of each system, must be available to the community.
- Technology options must be selected with the communities and adapted to the community's capacities and needs.
- The community understands the implications of choice in terms of responsibilities and tasks.
- The community is willing to pay.
- The community has decision making power.
- The community has access to required capacity building support.
- There should be a policy framework to permit and support community management.

These responsibilities also include a requirement to ensure that:

- The rules for use are known and enforced.
- There are enough funds to cover operation and maintenance and ideally also for major rehabilitation or replacement.
- The funds are managed effectively and in a transparent manner.
- The operation is undertaken effectively as per the agreed mechanism and timing.
- Preventative maintenance is undertaken on a regular basis and specific problems repaired.
- People working on the project to be paid are paid on time and the correct amounts.
- Problems and disputes related to the use of the facility are solved.
- Reports on progress and updates are given to the community members on a regular basis.
- Liaison occurs with the local intermediate level actors such as the local authority, water department or a local NGO to ask for help when there are problems the community cannot solve on their own.

Models of management

The community voluntary committee model has often been the selected (default) option for many of the ACF-IN programmes. Whilst this model can be appropriate in some contexts, it is important to also acknowledge the weaknesses of such a system and the particular challenges faced in vulnerable contexts in addition to the many challenges in developmental contexts, and to consider whether there are other options which may be better suited to the particular context.

Section B.1.2 covers a wide range of different management options which include:

- **Self supply, where households manage and upgrade their own supplies and often provide water to their neighbours** – potentially a very sustainable option as the householder sees direct benefit from their investment and there is strong ownership. This is the best option for sanitation for household use.
- **Institution managed** – facilities or projects managed by schools, health centres or other institutions – as there is a structure already existing which has the responsibility for managing the institution. Sustainability is likely as long as the facility is valued and there is an ability to raise or access funds for longer term maintenance.
- **Small scale private providers** – again has the potential to be a sustainable option where there is enough profit for the small scale provider to make it a viable longer term option.
- **Community voluntary committee** – can lead to sustainable supplies but faces many challenges where the leadership is not strong and there is limited community solidarity.
- **Cooperatives, Women's Groups, CBOs** – has the potential to be sustainable where there is clear ownership and rules for use, and use and division of funds.
- **Associations, Water User Groups, Area Based Organisations** – positive for engagement of the users in the process of management and the wider Associations providing support to a number of smaller providers for some longer term back up and capacity building support.
- **Public contracting out, public-private partnerships** – often undertaken on a larger scale than the projects an international NGO implement, but useful to be aware of for use in urban low income areas.

Community based management with the involvement of the private sector is often criticised for charging high prices for the service and also the risk that the poorest people who cannot afford to pay will be excluded. A guarantee that the poorest people can get free water or a token system being developed for the poorest can be incorporated into the agreement with the private sector small scale provider, but this would need to be negotiated from the outset. The amount charged for water will affect the profit gained by a private sector provider and hence will influence whether they are prepared to continue their operation over the longer term. Therefore a balance is needed for a fair price between that felt fair by the community members and by the private sector small scale operator. Refer to the case study from WaterAid in Dodoma (Section 1.2.4) for examples of where the community water committee has decided with the community to manage the system using a local entrepreneur / private sector operator.

Voluntary community committees

Voluntary community committees may decide to keep the prices for the water low, or the community contributions for operation and maintenance low, and to allow free water to the poorest members of a community. But there will be many challenges to the sustainability of such systems over the longer term. These may include:

- Problems with the dynamics of the committee.
- Problems between the committee and the community where there is a breakdown of trust, whether for a legitimate reason, or because of misunderstandings.
- The misuse of money (whether it is used for a positive community purpose but for which the money was not allocated, or for personal use) and breakdown of trust.
- Community members loosing interest over time once the outside agency that supported the project has left the area.
- Community leaders interfering in the decisions of the committee or taking the funds for other community projects without the agreement of the community or committee.
- The male or majority members of the committee not informing the female members or minority representatives of dates and times of meetings or what is being done with the money collected. A few more powerful members may also do the same to the least powerful members who may also be men.
- The committee are unable to manage repairs and do not take the initiative to seek outside help, or they do take the initiative, but the help is not forthcoming.

Lack of understanding, creates lack of trust [70]

'Lack of understanding often creates lack of trust, and lack of trust between the community and the WASH are highly diminishing the sustainability of the facility'.

Voluntary community management by committee can however, succeed and a few examples are shown below:

70 / Doley, F & Thogersen, J (2002) O&M audit, a practical tool for sustainability, In: 'Sustainable Environmental Sanitation and Water Services, 28th WEDC Conference', Kolkata, India, 2002

Examples of successful voluntary community management

Community initiative and leadership

In Nam Keo Village in Sing District, Namtha Province, Lao PDR, the community committee has managed to sustain its water project since 1994. The community maintained two handpumps for several years, but when one finally broke and they were unable to repair it they removed it from the shallow well and installed a local lifting devise which consists of a bamboo pole with a fulcrum and a weight. They also went on to replicate the construction of the two wells and have now constructed numerous additional lined shallow wells at family level themselves, borrowing the ring moulds from the local government department.

Appropriate technical solutions and community initiative on raising funds

A low income urban community known as Chicken Soup Factory in Monrovia, Liberia has sustained its two handpumps since 2004. The community has a number of point water projects supported by different agencies (total approx 12 point sources), most of which are from shallow wells. The ACF supported water project consisted of two handpumps on drilled boreholes. The Water Committee has both women and men on it and is chaired by a woman. The water committee does not collect money from families on a regular basis, but charges for water at the pump during the dry season when the two ACF supported borehole handpumps are the only ones with water remaining as the other point sources became dry. The demand during the dry season is high and this money is used to maintain the handpumps during the whole year.

Innovation with the community water and sanitation fund

Nueva Esperanza Village, Tierralta District, Córdoba Department, Colombia was formed from several communities after a displacement. Initially they found working together quite difficult but now they have become used to living and working as one community. A shallow well with electric pump feeding to a raised tank and supplying to communal points with training for the water committee, was one part of the community project by ACH. Hygiene promotion, support for household toilets / shower units and support was also given to a 'Community Mother' who looks after small children to improve her house, kitchen and toilet. Between 2004 until early 2007 the community collected a monthly contribution from each family for the water fund, but the committee recently changed its membership (they plan to do rotate this every few years) and the new committee brought in a new idea. The water money is now being used as a revolving fund which can be borrowed with interest. They are finding that they are raising more money from this method than asking for monthly contributions. The community also extended the communal supply to make household connections.

Doley, F & Thogersen, J (2002) O&M audit, a practical tool for sustainability, In: 'Sustainable Environmental Sanitation and Water Services, 28th WEDC Conference', Kolkata, India, 2002

Expanding the project to an improved level of service

Villa Luz Village, Tierralta District, Córdoba Department, Colombia was a displaced community due to the conflict situation in Colombia. They were supported with a project by ACH which involved the construction of a shallow well with a rope and washer pump which fed to a large concrete tank and a distribution to communal taps. The community members were formed into a rota and each morning a group of families had responsibility to pump the water into the tank. A few families found a source that could supply their households by gravity and made their own pipeline of several km. When the community saw what they had done they decided to increase the size of the pipeline and let the water flow by gravity to their tank. They also continued and made household connections to each house which could be supplied by gravity from the tank. This was all paid for by community funds. Opposite is a photo of the community leader with one of the household connections.

The management model options should be discussed with the community members and the local leadership and the strengths and weaknesses and possible problems of each highlighted, so that an informed choice can be made by the communities as to the option which they feel will best suit their community. Particular issues which should be highlighted are the issues around the management of funds and expenditure of the same and the challenges many communities have faced over this issue. Where there are already obvious problems of mistrust between community members and complicated politics, the use of a private sector operator, with a clear contract and remit that is responsible for collecting the money and providing the service, may be a suitable option. The management must suit the baseline skills of the community and particular care is needed to support simple record keeping where most members are illiterate. One very important element is the management of funds and it is proposed that for all management systems there is a need to put more thought and initiative into the following:

- Transparency of the financial management system.
- Transparency of the on-going income and expenditure with the wider community.
- How the management of the funds will be recorded and audited, ideally having a separate structure to check and audit the fund management, separate to the committee.

Basic aspects of a financial management system for community management [71]

FINANCIAL MANAGEMENT ISSUES	POSSIBLE OPTIONS
BUDGETING	
What costs to budget for?	Remuneration; Tools and spare parts; Small repairs only; All repairs; extension; Rehabilitation; Fuel, power supply etc; Depreciation, etc
What sources of income to use?	Regular user payments (monthly, sale per unit); Village funds; Voluntary contributions; Credit schemes; Government subsidy.
How to pay the mechanic or caretaker?	Per job; Per month (fix + % of sales); Per year after harvest; In cash / kind.
ORGANISATION OF FINANCIAL FLOWS	
How to collect the money?	Billing; Collection at water point; Fund-raising when breakdown; Taking money from a fund.
When to collect the money?	Per service provided; Monthly; After harvest; Beginning of financial year.
Who collects the money?	Caretaker; Operator; User group; Village Water Committee; Community leaders.
Where to keep the money?	In a safe; In the village account; In a bank account; In a development fund.
FINANCIAL ADMINISTRATION	
How to register movements of expenditures and incomes?	Log book; Daily journal; Book-keeping; Bank statements.
Who administers the funds?	Committee Treasurer (woman or man); A village accountant; Bank accountant.
What are funds used for?	Payment of expenditures related to O&M of water point. Generating bank interest. Use for other development projects.
Who orders payments?	Operator; Treasurer; Water Committee; Village leaders; Assembly of users.
FINANCIAL CONTROL AND MONITORING	
What type of financial control?	Receipts from book-keeping; Regular meetings of Water Committee; Double signature for disbursement of funds; Feedback to users; Checking of meter reading; Checking bank statements; Registering auditors.
How to monitor?	Use of log book; Make a quarterly review and overview of the situation on expenditures, incomes, and % of people who do not pay.
What to do with bad payers? (crucial for 'influential' members of society and public institutions)	Analysis of reasons for non-payment; Improvement of service; Improvement of relationship with the users; Campaign on benefits of good payers; Rescheduling of debt; Sanctions.

71 / Brikké, F (2000) 'Operation and Maintenance of Rural Water Supply and Sanitation Systems, A training package for managers and planners', IRC International Water & Sanitation Centre, WHO, Water Supply & Collaborative Council, Operation & Maintenance Network

Training for developing skills & confidence

The management system should be designed to suit the baseline skills of the community, but in all cases community members and the representatives of intermediate level actors, who will provide on-going occasional support, should be trained effectively in the ongoing management and operation and maintenance functions for the scheme. Ideally the local level intermediate level actors should be involved as trainers in the project trainings to help encourage their on-going engagement and support.

Considerations for training:

- Make sure that the training is suited to the baseline level of the trainees – where trainees are not literate more time may be needed for the training and materials may need to be adapted to use more pictures rather than words.
- Be aware of the community dynamics between people in the trainee group, and particularly when there are both women and men trainees. Sometimes it may be advisable to have women only trainee groups or groups where women are in a majority with a single or a few men, so that the men do not take over and dominate in group activities.
- Training should ideally provide some background rationale for, and theory around the task, a significant practical component and the follow up on-the job support over a period of time when the trainees are practicing what they learnt in their own community situations.
- Ask the trainees for feedback on the training some time after returning to their villages, as they may be able to identify useful lessons as to what should be added to the training to help future participants.
- Make use of study tours for community members to other communities where they have succeeded in managing a project and / or where they have succeeded in involving both women and men in the management.
- Consider how training may be repeated in the future or refresher training given to respond to the changeover of committee members or people involved in the operation and maintenance of the facility:
  - Train as many people as possible in each village for each task to ensure that if one person leaves the village or dies, or is away for a long period of time that someone else is also able to undertake the task.
  - Can local intermediate level actors raise funds and run refresher trainings – this would be made much easier if they are involved in the initial trainings.
  - Can refresher training be provided by the agency and partners as part of the on-going occasional back up support?
  - Can the trainees be trained in such a way that they are able to easily transfer the skills to the new people who get involved?
  - Incorporate people from old villages in training for new villages of in the agency's supported programmes.

Village to village: community based study tours[72] objectives

- Build communities' confidence in their ability to improve their own lives.
- Increase community participation, including improved communication skills and more positive interaction with government authorities.
- Enhance understanding about relationship between water &health risks and ways to reduce disease.
- Educate on the need for good management and maintenance of handpumps, latrines, and gravity-fed systems.
- Ensure women are active in decision-making and convince the community of women's crucial role in water management for improved health.

72 / Insouvanh, C & Gary, K (2004) Village-to-Village: Community-based study tours, 'People Centred Approaches to Water and Environmental Sanitation, 30th WEDC International Conference', Vientiane, Lao PDR, 2004

Book-keeping of funds collected by the water committee and lists of people who had not paid in the last round of collection in Bayata community, Bong County, Liberia

ACF trains five community members in each village in the maintenance of the handpump – here are four of the trained community members from Baryoumillie with spare parts and tools for their Afridev pump

B.1.3.3 Community willingness to pay and contributions to the capital costs, O&M

Whilst water may increasingly be seen as a right, lessons from the past failure of the public sector to be able to provide free water for all, and projects which have been shown not to be sustainable due to a lack of money to undertake repairs, show that there is a cost to the provision of a service, both water supply and sanitation. Issues around payment for water include:

- **People are prepared to pay for investments in household water –** People of different income levels are willing to invest in water infrastructure if they can see the benefit for their families. This has been clearly shown through the self supply model where many poor families around the world have been invested in incremental upgrading of their household water sources.
- **Poor people pay more for water than richer people** – It has been shown that poor people often pay much more for their water as a percentage of their income than richer people. When measuring the volume against volume, poor people who tend to use much less water also can pay more per volume than richer people who use more water but get it from a cheaper bulk supply.
- **Willingness & ability to pay** - In some communities there may be a difference between the community willingness to pay and their ability to pay, with some of the poorest members not being able to pay. In many communities visited as part of the field work it was accepted that the poorest people are known in the community and that they either do not have to pay for water or they are expected to undertake other tasks such as maintenance of the water facility as a community service. Women may also have less access or control over the family finances and hence less access to money for themselves to commit to payments.
- **Higher levels of service** - People are often willing to pay for a higher level of service, for example it may be difficult to get communities to pay for water from a gravity supply tapstand on a monthly fee basis but they may be prepared to pay a larger sum to connect the pipeline to their homes and then pay a regular fee based on a metered reading[73].

73 / Three communities visited during the field work, one in Lao PDR and two in Colombia, had gone on to install household connections from a gravity supply after the communal supplies had been completed.

- Regulating the private sector - The use of the private sector can lead to increased costs and can exclude those who cannot pay. How to cover the needs of the most vulnerable must be discussed and included in any agreements before the agreements are made and a mechanism developed to make sure that this system works.
- **Methods for collecting for on-going costs –** Different communities may have different preferences for the raising of on-going costs. Where water is paid at the tap this is often the easiest method of collection. Others may be able to collect a monthly payment from each family, but others may prefer an annual lump sum payment, or several payments after the harvest period, and others prefer to make payments as and when it is needed. Communities should be able to discuss and decide on their own methods for collecting for on-going costs, after the plus and minus of each method should be clearly discussed and understood.

Community contributions can be divided into three main types:

Contribution 1 - Contribution to the capital cost of the project
The differences in approach between the humanitarian sector and the development sector are highlighted clearly in the discussion over whether the community should make a significant contribution to the capital costs of facilities – both water and sanitation. In emergency interventions facilities may be provided free and with paid labour, or in some circumstances with free community labour and some local materials as the communities' contributions to the capital cost of projects. In development projects communities can be expected to contribute from between 5-20% of the capital cost of the project, including a cash contribution even for very poor communities.

- **For a significant contribution -** The arguments for a significant contribution towards the capital cost from the communities include that in the communities should contribute to ensure strong ownership of the facility and that if the communities are to be able to sustain the project over the longer term they will show their ability and commitment to be able to raise the on-going costs through the initial contribution. Many development projects do not progress until the initial contribution has been made.
- **Against a significant contribution** - The arguments against are (mainly from the humanitarian sector) that people who are poor can't afford to make such payments. The situation which has led to the emergency has taken away people's livelihoods and they have less ability than they usually would have to spend money on such facilities. The debate also continues in both sectors as to whether a significant contribution is really necessary to ensure ownership.

Subsidy for sanitation
In Colombia where the level of service is higher, the community members do not currently pay a contribution for their toilet / showers at household level, but are given to them free and those visited seemed well looked after and used. It is seen as general good practice that for household sanitation that only a small subsidy should be provided (if any – the Total Sanitation Approach does not provide any subsidy) so that the household shows both their demand for the facility and also its ability to afford to replace the facility or undertake emptying to sustain it over the longer term. Sanitation provided for free or at little cost has been seen to lead to abandonment, or use only until the facility is full.

The mixed opinions on the need for the significant capital contribution will continue. One possible compromise for vulnerable contexts could be for the community still to make a significant contribution to the project before it is approved, but that this money is used to start off the maintenance fund or to purchase the spares kit directly at the beginning of the project. This would still allow the community to provide some evidence of its commitment and seriousness about the project but the funds will remain in the community for on-going use.

Contribution 2 - Covering the full cost of management and operation and maintenance
In many communities in vulnerable and development contexts, communities are expected to pay for all management and operation and maintenance costs of facilities, whether at household level where the household will make these payments, or at community level. Collecting on-going costs can be easier in communities where water is paid for at the tap than where there is no payment at the tap or pump and hence a regular collection is needed, which is often designed as a monthly payment. In communities where there is good social cohesion and the community is aware of and understands the need for the collection of funds it will be easier to sustain such collections, but where this understanding is lacking and in urban areas a regular collection can be challenging. It is also more challenging when the community cannot visibly see the need for the payments. For example it may be more difficult to convince community members that payments are needed for on-going costs for a gravity supply or a handpump, than for an electric pump or a pump powered by a diesel engine.

It may be difficult for people to be able to access their usual sources of finances during conflicts and other vulnerable contexts and they may have lost their livelihoods and capital assets and hence it is more difficult to pay on-going costs. If inflation is very high, such as in Zimbabwe in 2007, it will be unwise to save sums of money in a bank account or community account as the money will devalue quickly. The collection, management and spending of community funds is one of the biggest risk factors for sustainability of community based water supplies and should have significant attention paid to it during project design, training and follow up support.

Basic recurrent costs estimation (operation and maintenance) [74]
1. List all O&M activities, needed, and their frequency.
2. According to each activity, list all human resources, materials, spare parts, energy, tools and equipment required.
3. Estimate the quantity or volume needed for each requirement.
4. Define the activity cost.
5. Sum up all costs of all activities.

Recurrent costs (operation and maintenance) [75]
- Materials (consumables, chemicals, energy, tools, spare parts and equipment).
- Works personnel (operation, maintenance, routine preventative maintenance, routine repairs, unanticipated repairs, construction for minor rehabilitation).
- Management personnel (planning, supervision, financial management, administration, monitoring).
- Follow-up (training, support, technical assistance, institutional strengthening, monitoring & evaluation).
- Financial costs (interest, amortization, depreciation, exchange rate variations, monitoring & evaluation).
- Environmental costs (water source protection and conservation, wastewater treatment).
- Other costs (transport, services paid to a private contractor) unaccounted for water, due to leakage in the system, bad administration, vandalism; they become a cost to the community if not prevented.

74 / Brikké, F (2000) 'Operation and Maintenance of Rural Water Supply and Sanitation Systems, A training package for managers and planners', IRC International Water & Sanitation Centre, WHO, Water Supply & Collaborative Council, Operation & Maintenance Network
75 / Brikké, F (2000) 'Operation and Maintenance of Rural Water Supply and Sanitation Systems, A training package for managers and planners', IRC International Water & Sanitation Centre, WHO, Water Supply & Collaborative Council, Operation & Maintenance Network

Contribution 3 - Paying for major rehabilitation or replacement

A WASH facility is only likely to be sustainable for the length of its functional design life and hence if it is to continue providing a service for the community or households after the end of this period, funds will also be needed for major rehabilitation or replacement. The ability of households and communities to be able to pay for major rehabilitation or replacement will depend on a number of factors, including the cost of the initial construction and how well this is matched with the household or community ability to pay. For example, a windlass on a shallow well may be easier to afford to replace than installing a new handpump and a rope and washer pump would be cheaper to install and obtain (where they are common) than an imported pump. An owner of a toilet which has a lined pit and a concrete block superstructure may be less able and willing to construct another of the same design, whereas a simple latrine without lining and only a small ring beam supporting a slab and a superstructure made with local materials will be easier to replace. There is a balance between level of service and ability to replicate. Refer to Section B.1.3.6 for further discussion on technologies options.

Replicating of shallow wells in Lao PDR

The Nam Keo Village in Sing District, Namtha Province, Lao PDR, had been supported with two large diameter shallow wells and handpumps. Whilst they had managed to maintain one of the handpumps until the date visited the other had broken down and they were unable to get the spare parts. Therefore they removed the cover slab and handpump and replaced it with a local lifting devise made from bamboo. They also went on to construct numerous shallow wells which were open but lined and with the local lifting devises at household level. They therefore replicated at a level of technology suited to their community, although when asked they still appreciated the support of the handpump.

For facilities to provide a service over a longer period of time, the major rehabilitation or replication must be discussed with the community, so that this can help them make a decision over the level of service which would most suit their community. Would they prefer a level of service where they can afford to undertake major rehabilitation and replacement themselves and hence potentially have a service for a longer period of time, or would they prefer to have a higher level of service, but risk that at the end of the design life that they will have to seek outside assistance to be able to undertake this work and hence they risk going back to their previous sources of water?

Willingness to pay and choice on level of service

When communities are committed to a project and have the level of service they have requested / demanded, they can often raise much more money than is assumed in projects in a range of different contexts. For example:

- In Lao PDR, ADRA described how one community wanted to add household connections for each house and went ahead and each household paid for their own connection and meter and now they pay for water against a meter reading each month.
- In Lao PDR ADRA also described how another community stated that it did not want to rehabilitate the old system but wanted a new system and they found the full cost of the materials from income from a rubber plantation, to implement the project with ADRA's technical support.
- Gbamjata community in Panta-kpa District, Bong County, managed to maintain its Afridev handpump from 1999 through the war until to-date. During this time the community noted that they had replaced the U seal ten times and paid USD 25 each time for the U-seal. Whilst prices did become very high during the war it is quite possible that this price was severely inflated by the person who went to buy the spare parts (as the cost of a U-seal in 2007 is approximately 1 USD), and hence the community paid far greater for the service than they should have, but the example still shows how when a community is committed to a project they can raise funds to sustain it even in a very poor country such as Liberia and during the middle of a very violent conflict.

Being flexible about the methods of collecting funds can also help the communities to be able to develop the method which is most appropriate to their situation. Care should be taken to ensure that whichever method is chosen that an effective audit or regulation mechanism is on place.

Community managed systems
Collecting fees in Garba Tulla, Kenya [76]
'People in Garba Tulla are testing different ways of collecting water fees. In one system, users pay according to how many animals of each species they water. A second system charges users a flat rate per boma (enclosure). Smallholders prefer the first system; big livestock keepers the second. The first group pays mostly directly, the other group may pay on monthly basis. The communities are generally able to collect the fees and bank them in Isiolo, the nearest town. They contact the Water Department in Isiolo for repairs. The deedha council oversees the operation. If pastoralists depend fully on this borehole and have no other water points to go to, its operation and maintenance are better secured. If they have alternatives, operation and maintenance suffers. The fee collection and management system stimulates community organisation and leads to quick responses if the water supply breaks down. Interestingly, it is easier to collect fees during times of stress than during the normal stage. Pastoralists have got used to paying for this basic service. They prefer to make one big payment rather than several smaller, regular payments. The communities are still experimenting with these systems and have not yet worked out which one suits them best'.

B.1.3.4 Quality of leadership & existence and enforcement of rules

The quality of the leadership and the existence and enforcement of rules play an important part in the sustainability of water supplies. A community with strong and dynamic leadership which is respected by the community will be able to solve many problems related to water supply, sanitation and hygiene with or without support from outside of the community. But where the leadership is not strong then small problems or issues related to community dynamics can pose significant problems and this can lead to a projects failure. Likewise where there are community rules and the community rules are enforced and hence people take them seriously there is more of a likelihood of the project being sustained. The Karmor Women's Group Earthpan Committee in Mandera, northern Kenya, is managed by some of the members of a larger existing Women's Group. The women explained that they have a system of fining their members when they do something wrong in relation to the project and the Chair of the Women's Group explained that she was once fined by the members for not undertaking her responsibilities as she was meant to. In this group there is a clearly known membership, clearly known rules, and they are enforced and hence this should contribute to the correct management and operation of the facility. However, in wider community projects there is often the risk that either the rules will not be enforced or that the community are not aware of the agreed rules, for example in relation to the use of the money collected for the water fund, and hence it is difficult for the community to regulate the funds. The process of regulation of community water schemes is an area that needs more attention and effort and could potentially make a difference to the longer term sustainability of schemes if it can be strengthened and improved.

The following table relates to the recommendations which came out of the study which follows it.

76 / Taken directly from - IIRR, ACACIA Consultants Ltd & CORDAID (2004) 'Drought Cycle Management; A toolkit for the drylands of the Greater Horn', IIRR, ACACIA Consultants Ltd & CORDAID

REGULATORY MECHANISM [77] (The nine found to be most important for the design of a regulatory framework are in bold)	
External regulatory mechanisms	**MoU with district (with some sort of follow up) - 1** Formally registered / licensed organisation **External audit reports - 2** **External assessment of performance - 3** League table of schemes
Entity / internal regulatory mechanisms	**Service contracts - 4** Constitution **Internal audit reports - 5** **Minutes of meetings - 6** **Report to the general assembly - 7** Public posting of income and expenditure
Voluntary regulation / purchaser participation	Vulnerable people served Approving income and expenditure **Setting and reviewing price - 8** Efficiency of the service (user satisfaction) **Is there evidence that the users can vote out either the provider or the managers of the AHA? – 9**

Regulation and sustainability of rural water supply projects – a study from Tanzania [78]

A study was undertaken by WaterAid in Tanzania to examine a range of different rural water supply management options by comparing the underlying factors of management that were possible determinants of scheme sustainability – it looked at 30 schemes in 10 districts.

The term COWSO has been used for a 'Community Owned Water Supply Organisation'.

The study looked at the following areas:

Community perception with regards to sustainability:

- Finance – if the community has enough funds to carry out repairs and / or rebuild?
- Technical skills - if the community has easy and long term access to the skills to carry out repairs?
- Equipment and spare parts – if the community has access to the necessary equipment and spare parts for their project?

Degree to which the roles of the people using and managing the scheme were separated:

- Purchasers & Provider – measures the community ability & willingness to pay for water service.
- Asset Holding Authority (AHA) & Provider – assessing contracting procedures, if they exist and how they work.
- Participation in regulation – measures the community participation in regulating their water supply scheme.

Regulation: (also refer to the table box above)

The study observed that in most cases voluntary regulators (communities) were not aware of their roles and rights they have over their projects, and where the COWSOs have legal status, internal regulators (Village Governments) were not sure of what they were supposed to be doing,

77 / Nkongo, D (no date, but post 2003) 'Regulation and Sustainability of Rural Water Supply Projects – What can we do better?', WaterAid, Tanzania

78 / Nkongo, D (no date, but post 2003) 'Regulation and Sustainability of Rural Water Supply Projects – What can we do better?', WaterAid, Tanzania

and for those few Village Governments which have an idea of their roles, they experienced a number of resistances from Management Committees.
Conclusions:

- Sustainability of community owned water supply organisations in rural areas is still a challenge and much linked to water governance issues. The study confirmed the hypothesis that sustainability requires: (a) Separation of roles / power; (b) Great participation and better regulation.
- Refer to the table above for the nine issues which were identified and thought to be of most importance when designing a regulatory framework.
- Additionally it is suggested that service delivery programmes should find a way of balancing the social and commercial aspect in delivering water supply services to the community. This comes from the fact revealed by the study that the projects which are operated with commercial aspects have attained sustainability.
- Service delivery programmes should facilitate communities to not only choose the appropriate model for managing their water supply projects but also to have knowledge and understanding on how roles and responsibilities are separated among themselves.

B.1.3.5 Gender divisions, inequity and social cohesion

Communities are often discussed as though they are egalitarian and equitable and that when community based projects are implemented that all will benefit equally. This is however not usually the case. Communities are complex with power structures and elites and those who have decision making power over others. Politics within communities and external to communities can either be an asset to support community cohesion, or can contribute to problems and divisions. The poorest and most vulnerable within communities may be the most difficult to reach as they are likely to live on the outskirts of town and spend much of their time trying to find food and income to support their families and hence are less likely to be available for participatory activities and meetings. They may also be less confident to speak in front of others and are the least likely to demand their rights.
People may be vulnerable because of their age, disability, health status, gender, ethnicity, caste, religion, marital status (for example being a widow), being from a minority group, poverty, or other factors. When a person fits into a number of the groups above they are likely to be more vulnerable, for example an elderly female widow who is from a minority group and has a disability, is likely to be poor and likely to be one of the most vulnerable people in their community. Care must be taken to ensure that the needs and priorities of the most vulnerable are sought out during the various project stages as they may otherwise unintentionally be overlooked. The poorest may not be able to afford contributions to maintain new technologies and care should be taken that newly designed schemes do not exclude them. Refer to Section B.2 for a range of practical methods which can be used to respond to gender and equity related issues in communities as part of the project cycle.
Where communities have limited social cohesion, and they have been forced to come together to undertake a community managed project, expecting equitable distribution of the resource and cooperation for paying for maintenance, there are likely to be significant challenges to sustainability. Conflicts and displacement can lead to a breakdown in community cohesion, particularly where trust has broken down or key community leaders have been killed or displaced. In such circumstances, a community project such as a water and sanitation project could contribute to re-building community cohesion, but the lack of social cohesion may also cause the project to fail over the longer term. In pastoralist communities the large animal owners often hold a significant social power and the assumption that equitable community committees will function easily may be challenged due to the strong power differences in pastoral communities.
Alternative management models such as self supply or the use of a small scale private sector entrepreneur should also be considered in such situations.

Why consider gender and equity in WASH?
There are various reasons posed as to why we gender and equity should be considered in water, hygiene and sanitation projects or in other technical projects and their related institutions. These include:

- If you don't then the project is more likely to fail and not be sustainable (efficiency) –the wrong source may be selected because of gathering the wrong information from the wrong people, the latrine may be located in the wrong place for everyone to be able to use it, men may prove less trustworthy than women with the maintenance funds (often noted by both men and women), hygiene promotion work may not reach men as well as women, maintenance many not be undertaken if women have no involvement in the operation and management of facilities, etc.
- If you don't then certain groups may be excluded from the services or even further disadvantaged (equity) – disabled children may not be able to reach the school toilets, the people of lower caste in the village may not be allowed to use the same water supply as the people of higher caste, women may be at risk of rape or attack if the route to the improved water source is hidden or excluded etc.
- Because it can contribute to empowerment of various groups and help them have more of a voice (empowerment) - such as women, people from marginalised groups, and those usually excluded (although on it's own a project is unlikely to change gender or equity relations it can contribute to the process of change where change is needed).
- Because it is the right of everybody to be involved in decisions on and in their own development (rights based) - whether child, woman or man, poor or rich, from a majority or minority group, old or young, and from whatever faith or background (although in reality not every person will be involved in every decision in a community project, it is still appropriate to have a fair representation).

A range of gender and equity related issues can affect or be affected by WASH projects. Refer to the box following.

Possible gender or other equity related differences which can affect or be affected by WASH activities:

- Roles and responsibilities – which influence the impact that WASH activities have on the persons life / how a person can influence the WASH project:
  - Role in community activities and ability to express views in public
  - Productive role
  - Reproductive role
  - Decision making power – in the household and in the community
- Formal education & literacy levels.
- Access to and control over money.
- Need for privacy for water, sanitation & hygiene related actions, including dealing with menstruation.
- Vulnerability to sexual and gender based violence (SGBV), including when using water and sanitation facilities.
- Different workloads and amounts of free time for resting or socialisation.
- Ability to leave the home – particular issue in areas where women live in seclusion.
- Being allowed to use the same water facilities as another group – for example low and high caste people (Nepal), women and their daughter-in-laws (India, Kenya), women from minority groups not allowed to use communal latrines (Sudan, India, Egypt)[79].
- Vulnerability in conflict situations – to the likelihood of being conscripted, or violence including rape or being killed.

79 / Alléy, D, Drevet-Dabbous, Etienne, J, Frencis, J, Morel, A, L'Hussier, À, Chappé, P, Verdelhan Cayre, G (no date) 'Water, Gender and Sustainable Development, Lessons Learnt from French Cooperation in Sub-Saharan Africa'

- Expectation that you will migrate to look after cattle or to earn an income.
- Ability to access facilities which are designed for the whole population – people with physical disabilities are often ignored when it comes to designing water and sanitation facilities, assuming that 'one size fits all' - when it often doesn't.
- Likelihood to be more trustworthy with money – whilst this is of course not true in all cases, people of enough different cultures in different countries have noted that they prefer to have women as treasurers for this reason – that it deserves consideration.
- Willingness and ability to pay for water – willingness to pay may vary by gender but in which direction depends on the cultural context and many also be influenced by the persons ability to pay80.

The involvement of both women and men in the project cycle, including in project identification, decision making, design, training and operation and maintenance and management will help to ensure that the project is more sustainable. Both women and men can often have different interests, knowledge and skills and by engaging both groups in the process of development of the project, the more likely that the project will succeed over the longer term and will meet a wider range of the communities needs.

A selection of gender issues which can have an influence on WASH projects and their sustainability from four of the main countries visited as part of the sustainability field work:

LAO PDR:

- In Lao PDR women, men and children collect water and some men also undertake other domestic and child care tasks.
- Women are not always respected when speaking in the presence of men.
- The ACF team struggles to keep female team members - the Moung Long programme works in the remotest villages and the district is away from major cities and towns.
- Most Village Technical Volunteers are men (although a few are women) and the Village Hygiene Volunteers are selected as one man and one woman.
- The majority of people in Lao PDR are from ethnic minority groups. Many people from the ethnic minority groups do not speak Lao, particularly those still in the rural areas, and hence for full participation and engagement of the whole community continual translation is needed.

LIBERIA:

- There are very few women in the formal employment sector (2% of the workforce) including in the WASH sector.
- Violence in Liberia was very high during the war – one study by WHO81, estimates that of over 1,600 women in 6 Counties (regions), that over 90% of the women interviewed had been subjected to one or more acts of sexual abuse during the war and 75% having been raped or otherwise violently abused, often by gangs of men.
- Women took on more decision making in the household and public sphere during the war and today there are more high profile women in government, including the first elected female President in Africa, and also some women in community leadership posts.
- There are approximately two boys for every girl in primary school and three boys for every girl in secondary school.
- 63% of the families in Liberia are female headed – 18% widows, 20% single women and 25% where the husband has not returned.
- Women and children usually collect the water.

80 / Alléy, D, Drevet-Dabbous, Etienne, J, Frencis, J, Morel, A, L'Hussier, À, Chappé, P, Verdelhan Cayre, G (no date) 'Water, Gender and Sustainable Development, Lessons Learnt from French Cooperation in Sub-Saharan Africa'
81 / Noted in: United Nations (2006) 'Common Country Assessment, Liberia, Consolidating Peace and National Recovery for Sustainable Development', Monrovia, June 2006

NORTHERN KENYA ON THE SOMALI - ETHIOPIA BORDER:

- 'Because of the strong social and cultural beliefs and practices, many Kenyan women have less access to resources and decision-making roles than they are legally entitled to'82.
- There is a preference for educating boys over girls and there are high drop out rates of girls from schools including through early pregnancy & marriage.
- More men seek employment away from home and leave the communities in the ASALs to migrate with their animals.
- Many of the female tasks have now become more time consuming in the ASALs such as collecting wood and firewood.

COLOMBIA:

- Children, women and men collect water, with men often collecting the water if it is a large load.
- Women are generally seen as participating easier in social projects than men, but it is also noted that they can also leave projects through mistreatment.
- When people are displaced the gender roles can change.
- Women are also members of guerrilla groups but often are relegated to undertaking domestic tasks.
- It was noted that there are larger gender differences within the indigenous communities and in the Afro-Caribbean communities and it is common that women in the indigenous communities do not speak Spanish.
- In Mandera district, literacy levels are approximately 33% (48% male and 18% female).
- Women collect the water in pastoralist communities for domestic use and sometimes for small animals – they can walk for up to 2 days for water.

Lessons from the Canadian International Development Agency (CIDA) on water management and to gender: [83]

- Gender issues and concrete planning to achieve results are still not being adequately addressed in the mainstream of the water security debate.
- Deliberate gender-focussed planning is necessary for benefits to reach women, especially when rigid social conventions limit women's participation in decision-making.
- Technical solutions for providing access to clean water should be accompanied by support for programmes that promote effective governance, including the inclusion of women in local user and policy level decision-making bodies.

Women's capability in undertaking maintenance and repair tasks: [84]

'Opinions that women cannot perform maintenance and repair tasks seem to be based more on stereotyped gender concepts than on any real inability. Confronting such gender stereotypes, Wijk (1985) quotes nine publications which demonstrate that women may well make better maintenance and repair workers than men. The reasons advanced are:

- The direct concern and personal interest of women in their water supply;
- Their regular visits to distribution points;
- The compatibility of preventative maintenance and user education with women's gender-specific tasks;
- Women's greater sensitivity to social pressure from other women to do a good job;
- The importance of health aspects;
- The lower career orientation and labour mobility of women; and
- Training of women in modern technology in recognition of their age-old skills in management of their domestic water systems'.

82 / UNDP (1999) 'Kenya Human Development Report, 1999'
83 / CIDA (no date) 'Water Management'
84 / Brikké, F (2000) 'Operation and Maintenance of Rural Water Supply and Sanitation Systems, A training package for managers and planners', IRC International Water & Sanitation Centre, WHO, Water Supply & Collaborative Council, Operation & Maintenance Network

Refer to Section B.2.2 for a range of examples of good practice in relation to responding to gender and equity in WASH projects.

Gender and equity – useful resources:

- Useful overview document of gender realities in WASH projects - Alléy, D, Drevet-Dabbous, Etienne, J, Frencis, J, Morel, A, L'Hussier, À, Chappé, P, Verdelhan Cayre, G (no date) 'Water, Gender and Sustainable Development, Lessons Learnt from French Cooperation in Sub-Saharan Africa'
- Useful checklists for gender in emergencies - IASC (2006) 'Women, Girls, Boys and Men, Different Needs – Equal Opportunities; IASC Gender Handbook in Humanitarian Action'
- Gender in conflict and post-conflict situations - UNDP (no date) 'Gender Approaches in Conflict and Post-Conflict Situations'
- Water & Sanitation for people with disabilities - Jones, H & Reed, R (2005) Water & Sanitation for Disabled People and Other Vulnerable Groups; Designing services to improve accessibility, WEDC, 2005

B.1.3.6 Informed choice, appropriate service level & technology and standardisation

Informed choice & appropriate service level

Informed choice is where communities are given an option for level and type of service and the relevant information which is needed to make an 'informed choice'. This may include the approximate initial costs, the on-going costs and the costs of undertaking major rehabilitation or replacement. It will include the advantages, disadvantages and any other particular relevant issues related to the management or use of the facility. Then the consumer can make a choice which is suited to their particular needs and priorities at this time.

A water supply ladder - for shallow well upgrading' can be seen in Section B.1.2.1. Self supply where a householder undertakes incremental upgrading as and when they can afford it and operates around the concept of informed choice versus incremental steps of improvement. Household level self supply tends to be very sustainable. Sanitation ladders are also used, for example the Sanitation Ladder in Lao PDR[85]. The ladder shows a number of different options for sanitation, from an improvement on traditional practice by changing locations of open defecation, through to a dry pit latrine to one with a lid, to a VIP, to a pour flush. It is a tool which can be used during community dialogue for discussions with communities where they are on the ladder now and where they would like to be.

In Section B.1.3.3 a number of case studies have been identified where communities have gone on to adapt the level of service that they had been provided with under an ACF-IN project:

- One which changed the rope pump from a shallow well feeding a gravity system to communal stand-posts - to a gravity-fed system from the source to the tank and then a piped system to the community houses.
- One which removed a handpump when they could no longer repair it and replaced it with a traditional bamboo lifting devise and then went on to construct open wells at household level.
- One which added household connections from a raised tank system previously constructed to community stand-posts.

If the service level is appropriate to the needs and priorities of the household or community, then it is more likely to be sustained.

85 / Lao People's Democratic Republic, National Water Supply & Environmental Health Programme, Ministry of Health (2001) 'Consumers Choice, The Sanitation Ladder: Rural sanitation options in Lao PDR'

Choice of technology
The technology used in a community or household must also be selected with care and a number of factors should be taken into account:

- The service level preferred by the users.
- The ease of operation and maintenance.
- The cost of operation and maintenance.
- The economic capacity of the community.
- The ease of access to spare parts.
- The initial cost and cost of major rehabilitation or replacement.
- The existing knowledge and experience of the use of the technology in the particular context.
- The appropriateness to the local culture and how acceptable it is to women, men, children and people of different groups in the community or household (particularly relevant to sanitation).
- The existing skills and baseline capacities of the communities in relation to their ability to be able to effectively operate and maintain a particular technology.
- Its effects on the environment and other users.

Relevance of technologies in different contexts
Technologies which are locally made and where the spare parts or materials are easy to obtain locally are much more likely to be sustained than those which are imported from outside and the spare parts are imported. The technology must also be selected in consideration to the context. For example the use of an electric pump from a well may be more appropriate in some contexts than others:

- In the context of Colombia where people may have knowledge of the required maintenance, have a stable supply of electricity even in many rural areas, and have access to skilled technicians who can undertake the maintenance, the provision may be appropriate.
- In the context of Tajikistan where the communities were used to having water supplied by electrical pump when the Soviet Union was in place, may still demand this level of service, but the erratic nature of the electricity supply including long periods without electricity and power surges means that providing electric pumps to be supplied by main electricity is not currently a suitable option.
- In the context of northern Kenya where the land is arid or semi-arid, very few rural areas have electricity and communities are semi-mobile and with a limited experience of management of pumping schemes. Boreholes with electric pumps may still be supported in some areas due to the limited availability of water, but they are difficult to sustain and should only be implemented after in-depth analysis of the situation and the management system and with strong back up over the longer term such as by government.

Examples of technologies which are easy to maintain include shallow wells and the Rope Pump and technologies which are expensive to operate and maintain is a pump and engine scheme.

Tankering and camel trains in northern Kenya
The context will be very important when considering the relevance or otherwise of technologies and whether they are likely to be sustainable. For example, in most contexts a tankering operation is not considered to be a sustainable option as tankering is expensive and needs a strong management and maintenance regime. In northern Kenya, communities rely on rainwater and large ponds or earth pans and underground rainwater harvesting tanks or birkads, and then they use these as storage tanks which are filled by tanker during the driest months of the year. Because people are prepared and able to pay for the tankers to operate, and the tankers have a steady income, they become more of a sustainable option.
In the same dryland environment in northern Kenya, other alternatives are used to replenish

water in the underground tanks, such as through the use of a 'camel train' [86] which is used in Marsabit in northern Kenya, where a train of camels go to collect water and then return with the water to fill tanks in the Hurri Hills. But even this method of transportation of water faces challenges with respect to sustainability and the camels sometimes die during the serious and prolonged droughts and hence need to be re-stocked.

Quality of initial construction vs. simple technologies which can be easily repaired

A judgement has to be made about the likelihood of sustainability of a technology implemented, considering both the impact of the quality of the initial construction and the ability of the users to be able to maintain the systems after the project ends. Installing a handpump which has expensive imported spares may provide good quality water for several years, but if the community are unable to afford the spares or access them once it breaks down, they may have to return to their previous unprotected sources. A simple pump where the spare parts can be made or purchased locally, such as the Rope Pump, may not provide quite as high a protection to the water, but it can be more easily maintained by the community longer term and hence the number of years that the community will be supported with water from the Rope Pump are likely to be extended. Refer to Section B.1.3.8 for a photo of a Rope Pump.

The Rope Pump [87]

The 'Rope Pump' has been very successful in Nicaragua following the efforts of a private company, Bombas de Mecate SA, set up to promote and supply the Rope Pump. In 2004, over 30,000 rope pumps had been installed in Nicaragua (supplying over 25% of the rural population).

In 2007, efforts are being made to manufacture and promote the Rope Pump in a number of other countries across the world.

Features of the rope pump - which makes it a sustainable solution for the pumping of shallow and medium depth waters:

- It is appropriate technology equipment effective to depths of 50m (the max standard depth is 40m with adjustments and a double crank which can increase to 60m, and a 80m application reached successfully).
- The minimum depth the water needs to be to pump is only 10cm (much less than most pumps - as sand does not affect the functioning of the rope pump)
- Produced with accessible materials & maintenance and repair do not require expertise and complex tools
- Easy to handle, easy to install and low breakdown rate
- Low maintenance costs – minimal at USD 0-10 / annum
- Relatively low cost making it accessible to the rural population

The reasons for the success of the Rope Pump in Nicaragua: The technology has gained social and institutional acceptance because it is reliable, efficient and affordable; The rope pump is a commercial product in the hands of the private sector; Much time and many resources have been invested in promotion activities; The private sector has had an active policy towards the WSS sector, through an open relationship and active communication; The national water utility (ENCAL) has recognised the rope pump as the national standard hand pump technology since 1996.

86 / Personal communication - Lammert Zwaagstra

87 / The information on the Rope Pump has been taken directly from the following references:

- Alberts, H, Meza, R, Solis, D, Rodriguez, M (1993) How the Rope Won in Nicaragua, 'Waterlines', Vol 12, No 2, October 1993
- Alberts, J. H. (2004) The Rope Pump – An Example of Technology Transfer, 'Waterlines', Vol 22, No 3, January 2004
- Sandiford, P, Alberts, H, Guillermo Orozco J, Gorter, G (1993) The Nicaraguan Rope Pump, 'Waterlines', Vol 11, No 3, January 1993
- Rope Pump Co (1997) 'Extra Strong Rope Pump, Manual of Technical Drawings', Rope Pump Co, Nicaragua

Obstacles to the take up in other countries:

- 'In Nicaragua rural water supply coverage has increased by roughly 3% per year during this period [10 years], compared to Africa, where traditional handpumps are still the norm, and where there has been an increase in rural water supply coverage of only 3% over the whole period (1990-2000)'.
- Attitudes to the adoption of the rope pump by development actors
- Lack of funds for the setting up of production

Production experience in over 20 countries can be seen on the website – www.ropepump.com

Whether to standardise [88]

There are positive as well as negative aspects of standardisation:

FOR STANDARDISATION	AGAINST STANDARDISATION
Wide use of the same item of equipment encourages agents and shopkeepers to store and supply these spare parts because of 'guaranteed demand'.	The chosen technology does not respond totally to the needs and preference of the users.
Proliferation of brands and technology makes it difficult to organize spare parts availability.	The market is closed for new, innovative and cheaper technologies.
Prices and markets can be more easily researched.	Poor incentives for involvement of the private and research sectors.
Users become familiar with one type of product or technology.	Possible conflict with donor policies on technology choice.
Training of personnel can be standardised.	Competition between different brands can bring down prices and lead to improvements.

In general ACF-IN should support the standardised models as per the country strategy (even if this is a selection of a few options depending on the context) but also be open to new developments and promote discussion on the same in the sector.

Community deciding itself that it preferred to have standardised pumps - Liberia

Samay community in Jorquelleh District, Bong County, Liberia were supported by ACF on two occasions, firstly during the war in 1999 and then in 2005 for a rehabilitation of boreholes. The community had two boreholes with pumps and one borehole that had been drilled by mistake by ACF during the war and not installed with a handpump. The two boreholes with handpumps in the village had different handpumps – one had a Konstalen pump and the other an Afridev. In Liberia there were three commonly supported pumps, but a move has been made in recent years to standardise on the Afridev pump, due partly to the lower cost of spares. When ACF came to rehabilitate the pumps after the war, the community asked that the Konstalen pump be replaced with an Afridev as the spare parts were easier to obtain. ACF felt that the Konstalen pump could not be replaced because of a technical constraint (possibly relating to the size of the borehole) and hence simply rehabilitated the Konstalen pump and the other Afridev. Later however the community managed to raise the money for two new pumps from lobbying a junior Senator and went ahead and arranged to replace the Konstalen pump with an Afridev and also went ahead and installed another Afridev pump on the unused borehole.

88 / Brikké, F (2000) 'Operation and Maintenance of Rural Water Supply and Sanitation Systems, A training package for managers and planners', IRC International Water & Sanitation Centre, WHO, Water Supply & Collaborative Council, Operation & Maintenance Network

B.1.3.7 Systems appropriate to livelihoods & income generation

Where systems are appropriate to livelihoods as well as domestic use, families can gain multiple benefits from water supplies, including improved nutrition and improved income which can be used for sustaining the facilities. Sanitation can be appropriate to livelihoods where ecosan is used and is culturally acceptable, such as where a fruit tree is planted in a full latrine pit. However where the wastes are extracted care should be taken that they are managed to ensure they are safe for use. Community water supplies providing water for large numbers of people are however more difficult to use for livelihoods, versus household level supplies which may be used by a household and their surrounding neighbours.

Income generation

For WASH projects to become sustainable, communities need to be able to raise enough funds to be able to pay for operation, maintenance, rehabilitation and ideally also replacement. A small payment or income generating opportunity for the key people involved in the community work can also help to maintain motivation over the longer term. To help in this regard, income generation activities, either existing or newly introduced, can contribute to ensuring sustainability of WASH.

Approaches and recommendations for supporting income generation activities [89]:

1. Start from the knowledge and what people know in the community – base the activity on the knowledge or experience of the family at the time.
2. Consider the option of working with individual families or with a group of families.
3. Then analyse what kind of community organisation is needed to create an impact on the community – cooperatives are one possible viable option. In Colombia cooperatives are seen as the only legal way to cover all areas – to legally register the organisation, to open a bank account, to have access to credit and to cover a number of options of income generation. It also helps to reduce some taxes.
4. Analyse the project and develop a business plan for each business and look at their viability through a market study.
5. Identify what support is needed to make each one viable.
6. Provide resources (materials / equipment, initial stocks of consumable materials, tools).
7. Help to set up a financial accounting and auditing / monitoring system.
8. Provide on-going back up monitoring support over a number of years.

Example: Financial system supported by ACH in Colombia for the cooperatives:

- One bank account, one set of accounts books, one accountant.
- **A 'capital fund'** (for paying back the cost of the capital items provided).
- A **'solidarity community fund'** (to use for community activities or to solve community problems).
- A series of **'family funds'** (funds being saved by each family for their own use).
- A series of **'calamity funds'** for each family (money available for difficult times such as illness or family problems).

Revolving health fund and payments for village health volunteers
ACF Moung Long, Namtha Province, Lao PDR programme

Revolving health fund and payments for village health volunteers
ACF Moung Long, Namtha Province, Lao PDR programme
Mosquito nets – The project sells mosquito nets at 12,000 Kip for large ones and 6,500 Kip for small ones and the money goes into the community's health fund[90]. It was noted that there is a list made of the poorer people who cannot afford to pay all at once and they can pay the money

89/ Recommendations from ACH Córdoba programme, Colombia.
90 / Note that there are different funds for water supply & health education in each village.

back to the committee at a later date. The Health Fund can be used for medicine & treatment (on a loan basis) or when families are going to be hungry. Families can borrow money and then later give back interest (on a 10,000 Kip loan would pay approx 500 Kip interest).
Follow up by the Village Health Volunteers (VHVs) – Once in a month health education work / survey work is done. The VHV get paid when they re-impregnate the mosquito nets on a scheduled basis (they charge 2,000 Kip and including 1,000 for the chemicals).

B.1.3.8 Environmental sustainability

Water systems are dependent on the sustainability of the water source, which is partly affected by the protection of the environment in the surrounds of the source. In the mountainous areas in Lao PDR in Moung District in Namtha Province, illegal cutting of trees is a risk to the sustainability of spring water sources which can disappear or move after trees have been cut. Environmental legislation does exist including in relation to the protection of water sources, but it is not implemented and corruption is noted to be a problem in relation to the illegal cutting down of trees. In Colombia the ownership of land has also lead to changing water yields in shallow wells, where land owners have cut down trees, affecting community supplies.

Damage to water sources from environmental destruction

Ban Aakha Village, Long District, Namtha Province, Lao PDR - Slash and burn was recently undertaken above spring for the village where ACF had constructed a GFS in 2001; the community are experiencing less flow from the spring and no water from the taps in the evenings.

The effects of 'slash and burn' are common in Laos where legislation exists to protect the environment but is not always followed.

Impact of land ownership on sustainability of water sources

Villa Luz Village, Tierralta, Córdoba Department, Colombia had a project supported in 2002 with a shallow well and Rope Pump which fed into a large tank for a gravity fed community supply. The initial system as seen in this picture was fenced off after an agreement was made with the land owner for its use for the community water project. There have been problems later however, with the land owner who gave permission to use the land for the tank and shallow well, because he cut down trees above the well which reduced the yield.
The lack of a formal, legal and written agreement has caused a number of problems for this community for their water supply.

Environmental sustainability of water supply and sanitation projects is important in all contexts, but in arid and semi-arid areas where the environment is already fragile, the impact of developing a new borehole can be far reaching in that it can lead to a change in the migration patterns of pastoral herds and also change the settlement patterns of communities. The resultant increase in use of the surrounding area can lead to increased environmental destruction and also an increase in competition for resources and hence increase the risks of conflict. Likewise in long term camp or displaced persons situation the increase in users in a particular area can reduce the yield of water sources for the host populations and there is also concern when there are significant sized camps, such as in Darfur and Chad and previously in western Tanzania, that long term damage can be made to the groundwater table.

B.1.4 RESPONDING TO FACTORS EXTERNAL TO COMMUNITIES

B.1.4.1 Legislation, policies & political support

The influence of the legislative framework on sustainability
The legislative framework[91] of a country (laws, policies and associated instruments) will have an influence on the sustainability of projects. The legislative framework can affect the understanding of:

- Ownership of water sources and facilities.
- Land ownership and responsibilities in relation to environmental protection.
- Responsibilities for operation and maintenance and rehabilitation of schemes.
- Responsibilities for health and hygiene and for urban and rural water and sanitation.
- Sector approaches including water management models, standardisation, and responsibilities.
- Registration of CBO, NGOs and the private sector and their responsibilities and dispute resolution.

Developing a legislative framework in Tajikistan – transition from Soviet rule to independence
Tajikistan, once part of the Soviet Union, came under its the legislative framework, but on the break up of the Soviet Union, Tajikistan, like other former member states are having to develop their own laws and policies. In Tajikistan, government structures are very complicated with numerous Ministries and Departments having responsibilities for part of the water infrastructure or supply or the electricity to supply the pumps, but with none with a clear responsibility for the operation and maintenance of schemes in the rural areas. The ownership and responsibility for rural water supply and sanitation have been complicated by the break up of the former cotton farms which previously owned and managed the water systems in rural areas. In 2007, some laws exist, such as the Water Code of 2001, and various policies and strategies are under development or have recently been approved, such as the Water Sector Development Strategy (2006), but still the responsibility for operation and maintenance in the rural areas is not clear and there is no single Ministry or local authority with responsibility, although ownership has been identified in the decentralisation policy as all infrastructure belong to the Jamoats, which are sub-district administrative divisions, but no responsibility or resources have been identified for operation and maintenance. In 2006, a law of Water User Associations was approved for irrigation schemes, but such a law is not yet under development for the domestic water and sanitation sector. This makes alignment of programmes with the appropriate authority to build links and undertake capacity building, problematic.

91 / The legislative framework and political support can provide an enabling environment within which the communities and organisations and institutions within the sector can perform effectively.

Where there is clear political support for particular management models or standards within the country and an appropriate legislative framework, it is easier for the government and non governmental sector actors to standardise their approaches and for longer term backstopping support to be provided as the models are known and hence are easier to support. When there is no clear framework or the legislative framework does not have political support, a wide range of different actors in the sector can implement in different ways without any standardisation or harmonisation and without adequate regulation. This then makes the provision of backstopping support by intermediate level actors more difficult to achieve. But the existence of a clear legislative framework does not always guarantee that it is implemented, as is seen in Colombia where the laws and policies are not implemented as they are written, particularly in rural areas, and in Lao PDR where environmental protection laws exist, but are not enforced leading to increasing deforestation in parts of the country. Refer to Section B1.3.1 for information on legal ownership.

In comparison to Tajikistan, **Zimbabwe**[92] has a well developed legislative framework for the WASH sector and has a well defined structure and responsibilities along with project management handbooks and implementation guides for community based management with step by step procedures and indicators of success for each step (last revised in 2005). Zimbabwe has clear models for management, but it faces other challenges related to hyperinflation, the high prevalence of HIV/AIDS, repeated droughts and political instability which affect community and governments efforts to sustain water and sanitation.

B.1.4.2 Efficiency of intermediate level actors – Government, NGOs, the private sector

One area where there is increasing recognition through recommendations from detailed research into the successes and failures of community management over the past few years is the need to put more emphasis onto also developing longer term support and the need to build the capacity of intermediate level actors.

The essential role of intermediate level actors

Schouten and Moriarty noted in an e-conference 'Beyond the Community' (2002)[93].

'International experience after two decades of implementing projects aiming at community management of operation and maintenance shows that the communities can do a great deal. They can successfully carry out operation and maintenance, they can organise cost recovery, they can co-operate with other communities to make large and complex piped systems function. But the experience also shows that the sustainability of community managed systems is fragile even if they are implemented with intensive participatory training and planning. There are numerous risks that threaten the sustainability of the water supply systems and communities often get into problems after the agency has left. Problems arise with the technical maintenance of their systems, but most of all problems arise with their management: with cost recovery, planning, transparency of decision making, communication between committees and community people. Problems also arise where the conditions are more difficult, where demand is not that obvious, where cohesiveness in communities inhibits decision making and where systems are more complicated. If things start to go wrong with the management of the system, distrust in the community will grow and will finally bring the system to its knees'. 'Without outside support most

92 / Government of Zimbabwe (revised 2005):
- 'Sustainability Strategy for the National Rural Water Supply and Sanitation Programme'
- 'Integrated Rural Water Supply and Sanitation Programme, Integrated Rural Water Supply and Sanitation Project Management Handbook'
- 'Integrated Rural Water Supply and Sanitation Programme, Community Based Management of Rural Water Supply and Sanitation Services in Zimbabwe'

93 / Noted in Ockelford, J (2006) Cambodia, Rural Water Supply and Sanitation Sector Review, Final Report, Oxford Policy Management

community-managed systems will at some point in time break down. This does not mean that community management has failed and that government provision is necessary. What it does mean is that in addition to the 80% of management effort provided by the community, there is a crucial 20% that must come from outside, troubleshooting, backstopping, facilitating, enabling. Only then systems can become sustainable beyond the lifetime of a project or a system and only then more people can be served more quickly while maintaining sustainability'. (Schouten & Moriarty, 2002)

Batchelor & Kenny (2002) [94] also note:
'Motivation within any social grouping will change and more than likely diminish over time. Again literature and data suggests that there must be 'ongoing consultation' in order to keep the community motivated to pay. In theory this could be undertaken by the village water committee. However, there is also the element that participation wanes after a while, and it may require very small but important external support to maintain participation and motivation'.

Repeatedly in literature analysing past projects and the challenges to their sustainability has noted this issue and that there is a need for a small but continued input from intermediate level actors for longer term sustainability – contributing towards this aspect should have an increased focus in the ACF-IN programmes as well as continuing to build the capacity of communities.

The role and capacity of intermediate level actors

Government and local authorities
Ideally the government structures in their various forms and levels should be responsible for providing back up support to communities over the longer term. Outside agencies are working in their areas of responsibility and should be involving and collaborating with the government and local authorities wherever there is the possibility to do so.

Challenges to government being able to undertake its responsibilities
However there are often a number of constraints which lead to this being difficult or not very effective, particularly in vulnerable contexts:

1. Limited staff working for decentralised Ministry departments and local authorities – often a very few staff have to cover vast areas and numbers of villages and facilities.
2. Limited financial resources available to government / local authorities for paying for repairs and rehabilitation.
3. Limited transport and money for fuel costs.
4. Government staff may not be able to access areas of insecurity during a conflict.
5. Qualified staff may leave the government posts due to low salaries and lack of resources to implement to go and work for NGOs and other actors who have access to more resources.
6. Staff may be de-motivated.
7. Staff may need to have several jobs to be able to support their families and hence are sometimes absent undertaking farming or private work to supplement their low incomes in their government posts.
8. Corruption may be present and communities may not trust government staff (whether the corruption is real or perceived).

94 / Batchelor, S, McKenny, K, Scott, N (2002) Cost Recovery Exit Strategies for Re-settlement of Drought Prone Populations, Project Technical Report, DFID and Batchelor, S, Ngatshane, J & McKemey, K & Scott, N (2001) 'Organisational exit strategies for water supplies', 27th WEDC Conference, Lusaka, Zambia, 2001

But despite the many challenges facing government and local authority staff, government staff who remain in their posts are often very committed and would like to do a good job but are constrained by the issues noted above, but in spite of this still manage to undertake useful work with very few resources. But the mismatch between responsibilities and expectations of communities and external actors and the resources and staff numbers available to undertake these responsibilities means that government staff are often blamed for their lack of effectiveness or lack of capacity, when the situation of funding resources and limited staff is beyond their control.

The agency should try to work with government and within government frameworks and to support the role of the government actors and their capacity whenever possible. The only situation where the approach may be modified is in acute conflict situations where the government is one of the warring parties, or is targeting minority groups, or where a functioning government does not exist.

As an emergency situation stabilises, the more effort that the agency should put into working with government structures and handing over the responsibilities as far as it is possible. This will often be challenging, but it is an important contribution which all actors working in emergency and development should be working towards. The promotion of government capacity and good governance through collaborating on programmes has the potential to have a much wider and sustained impact as well as helping to provide back up to the communities who have projects supported by ACF-IN, to sustain their systems over the longer term.

The way that the projects engage with government should be considered from the outset and also how they are likely to change as the context evolves through various phases.

Working in the same areas for a long period of time and ensuring a good coverage has a number of benefits for sustainability, including: that there is more chance for building links and contributing to building the capacity of local level intermediate level actors; to increasing the capacities of community members to undertake maintenance in a substantial number of communities; easier to ensure a viable supply of spare parts; and to develop the skills of the private sector etc.

Other intermediate level actors who could be involved in the provision of occasional follow up support:

- Local NGOs – Teuk Sa'at in Cambodia is a local NGO and is available for communities to come and ask for assistance with previous projects and it provides on-going support by responding to their requests.
- Churches, Mosques and other religious institutions – An under-utilised resource for back-up support for WASH projects. Whilst INGOs such as the ACF-IN may be non religious, consideration should be made as to the long term presence of many religious institutions in many vulnerable and development contexts. Members of the religious institution structure may be present in an area for a long period of time and may have an in-depth knowledge of vulnerability and local dynamics and also how to facilitate conflict resolution within communities. As many of the problems of community managed WASH relate to community dynamics, relationship and management issues and not technical defects, the involvement of an outside facilitator may be all that is needed to help communities solve their problems.
- Clinics and health outreach teams – Government or non-government – may also have a long term presence in an area and a good understanding of community dynamics and also understand the impact of failed WASH projects. Where villages have government identified local health volunteers or community level health workers they can also be used to report problems when they provide updates for the health situation in communities.
- Small private enterprises and individuals – Local mechanics, small businessmen or women, local investors, may all have skills and resources which can be called upon when communities have problems with sustaining WASH facilities over the longer term.
- Area based mechanics and the private sector – Various options have been suggested for technical back up:
  - Mechanics that are responsible for providing back up support and spares over a particular area – could be government or private.
  - Additional training provided to the best community pump mechanics in an area, who have

been shown to be active and competent, who are identified to other villages for additional support, and are given extra spare parts for use as a revolving supply and linked up with suppliers in large towns or cities[95].
    - Setting up a network of village pump mechanics so that if the village pump mechanics in one village cannot solve a problem they can ask for help from others in neighbouring villages[96].
- Teachers – Can be key people in rural areas, who are depended upon for a range of tasks, particularly where many people are not literate. They can also be a good link to outside people and institutions who could help facilitate the solution to a problem.
- Community development staff and other outreach or extension staff such as for agricultural programmes – Can also be key people to help identify problems with on-going WASH management and help the community to solve its own problems, or help to link them up to people who can help them.

ACH Central America – Thematic Profile of Water & Sanitation, Dec 2006
Institutional and community-focussed strengthening
The ACH strategy of intervention focuses on actions which will contribute to the sustainable development of beneficiaries, which focuses on the following axes of intervention – environment, education and institutional strengthening and community focus.
Examples of actions proposed for the institutional and community focussed-strengthening include:

- Use of already existing methodology of work (technical tools and methods applied), employed by the institutions and governmental structures with appropriateness to the sector of water and sanitation.
- Strengthening of the sectoral links between community structures and governmental structures or public institutions responsible for public services.
- Timely equipping of the community and governmental structures to facilitate the execution process of actions and the sustainability of the results reached by the projects.
- Decentralisation has demanded investigations into models of management of basic services which can be sustainable which will allow autonomous administration in the communities for water and sanitation.

The ACH Azerbaijan programme has considered the linkages with government and institution building as a key element of their programme.

Good Governance for Water – Water for good governance, in rural communities of Azerbaijan
Background - ACH has been intervening in Azerbaijan since 2000, in the districts of Agjabedi and Beylagan with the aim to enhance the living conditions of vulnerable households through the creation of a favourable social and economical environment. Lack of potable water is a serious threat to improvement of living conditions and poverty reduction in these two districts. Old and neglected infrastructure has deprived rural areas of basic access to safe drinking water. The situation in Azerbaijan is typical to ex-Republics of USSR where the collapse of the Soviet Union resulted in the decay of infrastructures and management mechanisms. A poor economic situation impeded necessary investments and over centralization resulted in weak governance and little sense of ownership by communities over public facilities. In recent years, Azerbaijan saw changes that could have addressed the causes of the problems. The oil boom has brought significant income for the State budget, obsolete District Water Departments were semi-privatised (into the Azersu company), and local self-governments[97] were set up.

95 / Model which was supported by the ACF Mondolkiri, Cambodia programme in 2007
96 / Model being considered by the Bong programme, Liberia in 2007
97 / A Municipal Council is elected by community. In general one municipality represent one village.

But unfortunately rural communities have not seen improvements in their access to water. Inefficiency of Azersu, the reluctance of the government towards decentralisation and resignation to the situation from communities are still there, and old problems persist: water is either absent or wasted.

Objective - In 2006, ACH started to work with the European Commission to support a 2 year project with the objective to improve access to safe drinking water in a sustainable manner to vulnerable communities. As sustainability is still a significant challenge in the current context, ACH opted for a pro-active methodology: where water becomes a mean to develop local self-government and promote good governance, which in return is the key for sustainable access to water.

Methods used - ACH acted in 3 steps:

- Defining the most relevant water management mechanisms for communities - ACH collaborated with a local NGO specialized in legislation and institutional development. A survey was undertaken among the population, a review of legislation and an evaluation of stakeholders revealed the absence of accountability, the deficiency of the official system and the low level of awareness, skills and knowledge in water management. ACH and its collaborator came up with the definition of an autonomous, sustainable and efficient model of water and sanitation management at community level. It holds local municipalities as those soley accountable, excluding Azersu company or creation of CBOs[98], which tend to weaken the development of municipalities. Participation of community is rather preferred through water users representatives involved in a new municipal water and sanitation commission.
- Developing and building capacities of local self-governments through water and sanitation - A steady process of capacity building over 12 months aimed at strengthening municipalities. Through water and sanitation, the lessons of establishing a municipal commission and technical unit, and the development of a strategic plan, proposal writing and fund raising were put into practice. Municipalities gained knowledge and experience enabling them to further develop and fulfil their general responsibilities. Water users' representatives benefited from this process, enabling them to understand role of municipality, to monitor them and to participate in decision-making process.
- Promoting good governance through the incentive of water - During the capacity building process, close monitoring of activeness, mobilisation and progress towards good governance, put as a condition for provision of water, allowed ACH to finally select only the municipalities able to sustain the investments (9 out of 13).

Results – The communities today can clearly identify their responsibilities over water and sanitation in their municipality. The development of a strategy over 3 years to solve problems has allowed the definition of a sustainable technical solution. In most communities' the location of new artesian wells were preferred at the edge rather than the middle of the villages, considering slope and future development of networks. Operation and maintenance are ensured for the first time by a newly recruited municipal technician. Involved in the decision-making process through their representatives, all communities were willing to contribute financially to the rehabilitation or construction of infrastructures. All communities understood the necessity for water fee system, which were refused previously due to lack of management and trust.

Conclusion - The project offered an interesting community development approach where access to water, being a primary objective, becomes a remarkable means to promote good governance and to develop local self-government institutions. The project challenged the unpromising official and centralised water management structure, and in the mean time refused to weaken local authorities. ACH endorsed a model and methodology focused on making the municipality more accountable, competent, efficient and transparent. This approach was particularly adapted to the post-Soviet context, where heritage of centralisation is still heavy at all levels of society. ACH will replicate this experience to improve access to irrigation water in Azerbaijan and Armenia through the strengthening of newly created Water Users Associations.

98 / Such as Water Point Committee.

Lodwar Catholic Diocese in Kenya provides an example of where a religious institution is providing a community service by running a handpump maintenance scheme.

Lodwar Catholic Diocese providing a mobile maintenance team under subscription scheme
Lodwar Diocese as with many of the Catholic Diocese in Kenya has a water programme (in operation since 1984). Within this they have a mobile maintenance team of one vehicle and a team of 4 staff who provide a service which maintains handpumps across the district to subscribing communities. A community has to pay 2,500KSH (less than 40 USD) per annum to be eligible for this support. The Diocese has district wide coverage although not all communities currently subscribe. Although OXFAM and other INGO's have been important in ensuring critical water points remain functioning during drought, often working through line Ministry technicians, the Diocese through its continuous presence and excellent grass roots coverage has provided a key service to communities. This is helped by a fairly efficient reporting system - users can report breakdowns through priests who travel out to the villages on a weekly basis to provide mass services, which in turn report the problem back to Lodwar HQ and alert the maintenance team accordingly. Their work has concentrated on handpumps but OXFAM has also been discussing with the Diocese whether they have the capacity to extend these to mechanised borehole systems powered by gensets, which they have indicated could be accommodated. OXFAM's current programme is strongly advising communities to subscribe to this service rather than trying to push the VLOM concept and communities taking on all of the responsibilities themselves.

Methods to encourage increased intermediate level support
Whatever the context it is important to think about the possible options for encouraging intermediate level actors to be able to provide longer term occasional support to communities and then to design these links into the programme – for example by:

- Including the local intermediate level actors in the programme design.
- Working with the local intermediate level actors as partners, who undertake the implementation with the agency's technical support.
- Inviting the intermediate level actors to attend the training sessions of the programme.
- Ideally including them as trainers in the training sessions for communities.
- Inform the communities of the various options for obtaining back up support over the longer term and particular mechanisms possible for finding occasional support.
- Agreeing on joint back up monitoring visits to communities in subsequent phases of programmes.
- Asking government representatives to technically approve plans, designs and invite them to inauguration ceremonies.
- Contributing to building the capacities of intermediate level actors through providing training, secondments, equipment, vehicles such as motorbikes etc

Continuation of support to communities after the initial project implementation
Whilst also making efforts to involve the local intermediate level actors in the programme and projects and linking communities with the possible people who could provide longer term back up support, agencies should also be re-thinking the length of its commitments to the communities with whom they work in emergency and transitional phases. Interventions which are limited by the short emergency time-bound project cycle are not enough and follow up support should be an integral part of every new proposal, including budget and staff for this task.

Examples of donor support for back-stopping and follow up work in the same communities
During this research donors have been generally supportive of this approach and there are already examples of where such models are already being supported and funded:

- Follow up monitoring and support is being undertaken and funded in the ACF Lao PDR Moung Long programme (ECHO and then EU funded).
- Follow up continuation projects are being funded for ACH projects in Colombia (SDC funded projects).
- Follow up is being specifically requested for the projects the donor funds in Liberia (by ECHO).
- Several donors have specifically agreed that they would support such activities, even where the projects in the communities to have follow-up support were not funded by themselves previously (DFID in Sierra Leone, SDC Colombia).

Follow up monitoring and back-stopping support is needed to help communities have time to face problems, try and solve their own problems, and grow in confidence to do the same over the longer term. It also allows for the identification of where there are serious problems that the community is unable to solve on its own to be identified and hence additional outside support given.

To consider with respect to back-stopping follow up support:

- Whilst follow up support should be continued for some time after the initial project has been completed, care must be taken not to create dependency and an expectation that in the agency will come back and solve the problems of the community. The purpose of the back-up monitoring and support and the role of the agency should be clearly stated including the fact that the agency will not pay for any work which needs to be undertaken to repair a broken or damaged facility. The agency will help the community find their own solution to the problem.
- Wherever possible follow up monitoring and support should be undertaken in partnership with the longer term intermediate level actor(s) who will hopefully remain in the area and be able to provide on-going occasional support. This will hopefully build links and their knowledge of the communities and where necessary their confidence and skills to help communities solve problems.
- Ideally a minimum of 5 years back up support should be considered as projects supported during an emergency or transitional phase, but the time may be limited by the number of years the the agency remains in an area.
- Where the agency works with local partners, the partner organisation should play a key role in the back up on-going monitoring and support.

The table below gives an example of an outline proposal drawn up by the ACF Bong WASH and management team in Bong, Liberia, as how follow up monitoring and back-stopping could look in their area.

Monitoring	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5
Key activities	Projects – 6mths to 1 year to implement	Follow up visits every 3 months (more if problems)	Follow visits every 6 months (more if problems)	Follow up visits once a year (more if problems)	Follow up visits once a year (more if problems)
Key activities	• Improve selection of CWC reps • Include what should be done if one person leaves role – how to handover • Train more people as deputies (but care re treasurer role) • More learning on the job • Earlier handover of tools • Turnover at the end of implementation to allow for more follow up (rather than at the end of the year) • Timing for latrine programme – no fixed ending – longer term social mobilisation over a number of projects	• Follow up of – cash box management, leadership & transparency – 1 meeting • Use the opportunity of new village trainings to respond to problems / gaps in old villages • Latrine use and maintenance – on-going focus in certain villages • Allocate time, resources and staff specifically for follow up versus new programmes			
Challenges & possible solutions	• Illiteracy – for treasurer posts	• Follow up with the pump mechanics - if they leave – involve new mechanics in courses for new villages or refresher trainings • Follow up of CWC – if some leave – also involve new members in trainings for new villages • Problems – turbidity, general problems with the source – 1 day for major rehabilitation	• Pumps more likely to breakdown • CWC more likely to be non-functional • Problems with cash box likely • Population may have increased due to population movements • Respond to all of the above depending on the particular problem of specific villages		

Moung Long programme, Namtha Province, Lao PDR
The Moung Long programme in Namtha Province, PDR has been reducing the number of new water projects each year, but with increasing back stopping of old projects. It has been funded since 2000 by ECHO with a series of projects and has now transitioned to a 3 year food security project funded by the EC. The programme is in a particularly remote area of Lao PDR and is working with ethnic minority communities who face resettlement if their services are not improved. The programme supports roads, food security, water and hygiene promotion.
In the first year the programme supported 20 new water schemes in villages, the next project supported approximately 15, the next 7-10 and each year also supported the previous projects with back up support. The current 3 year project will implement 10 new villages and 2 school and will provide back up support to 25 communities over a 3 year period.

Refer to Section B.2.1.3 for a description for undertaking an O&M audit as developed by the DANIDA sponsored Community Water and Sanitation Programme in Ghana. Refer also to the case study on the ALRMP in northern Kenya in Section B.1.3.1 and their follow up depending on the level of problems which communities face in managing their projects.

B.1.4.3 Availability of donors or funding sources

The availability of donors and funding sources will also have an impact on the longer term sustainability of systems and facilities. Sustainability is likely to be enhanced when funding is available for:

1. Support for national policies and legal framework which effectively incorporate:
   a. The models of management supported by Government for urban and rural WASH.
   b. Legislation over ownership of water sources and facilities.
   c. Legislation over ownership of land and environmental protection of water sources.
   d. Policies identifying responsibilities for management and O&M in rural and urban contexts.
   e. Policies identifying the key changes in approach during the transition from emergency to development contexts and in Contiguum situations.
   f. Policies which encourage DRR to be incorporated into development programming.
   g. Standardisation of technologies.
2. Support for national spare parts chains.
3. Support for intermediate level actors to be able to undertake their responsibilities, for example in the form of vehicles for technical and maintenance teams, access to training for interim level actors and ability to operate and maintain their own equipment, such as well deepening equipment or compressors and associated equipment for flushing and developing boreholes.
4. Occasional major rehabilitation or replacement of older systems.

Importance of following through support during the LRRD stages (Liberia case study)
In Liberia, ACF worked throughout the 14 year conflict supporting communities with WASH. Sometimes during the fluctuating periods of intense fighting and peace, the work was sometimes hurried when insecurity was increasing and the teams had to leave the area quickly and also some communities who had been supported with boreholes and handpumps then were subsequently displaced from their home areas. Some communities also reported that their tools had been stolen during the war. Following the cessation of violence ACF continued to work in the same areas of Liberia and revisited the previous communities, undertaking rehabilitation where necessary, re-training committees and volunteer village maintenance technicians and hygiene promoters. Sometimes the members or trainees were the same people and sometimes they were different people, depending on who was around after the war and their interest or otherwise to continue in this role. Whilst some communities had managed to sustain their facilities through the war, others had faced problems, including a few technical problems with muddy water. Therefore the opportunity for follow up support and rehabilitation as the country moves towards peace, has meant that the communities capacities were reinforced which will hopefully

have an impact on longer term sustainability.
During the rehabilitation and retraining period ACF also took the opportunity to keep refining and improving the way it worked with the communities, and for example increased the number of people trained in maintenance of the handpumps from 2 to 5, so that if one person leaves the village, another passes away and another decided he or she does not want to continue in the task, there will still be people trained in the maintenance in the village.

B.1.4.4 Availability of spares

The availability of spares or materials required for the on-going operation and maintenance for any technology supported for a WASH programme is an essential component of sustainability. If a handpump is installed and a spare parts kit given along with training as to how to operate and maintain the pump, once that spare parts kit has been used up if there is no possibility to purchase additional spare parts at a reasonable distance from the community, there will be a high risk that the pump may go into disrepair. A whole community could therefore loose its water supply, women and children may have to walk long distances for water, and illnesses may increase due to the return to contaminated water, all for the sake of a 1 USD spare part.

Approaches to spare parts supply:

1. Implementing agencies i.e. government or NGOs providing supplies.
2. The private sector to supply.
3. A network of churches or other not for profit organisations providing spare parts.
4. A network of government- owned hardware shops.
5. Supply chain linked to the provision of handpumps.
6. Public – private maintenance systems.
7. Spares supply through regional dealers and area mechanics with govt list of spare parts retail prices.
8. Use very simple technologies which do not need specialist parts or components.
9. Sponsorship approach.

Sustainable spare parts distribution is difficult to attain and the business approach, which is often favoured is difficult to sustain as the turnover of spare parts is often so low that profit is not high enough to make the supply a profitable venture even when an additional product to existing stock. Locally produced technologies which avoid specialist spares can also make a supply chain much easier to achieve. Where spare parts are linked to an alternative maintenance system to individual community based maintenance, this can also lead to an improved access to spares, such as where there are area based mechanics or a church based organisation providing a subscription service, such as in the case of the Lodwar Catholic Diocese in Kenya (see the example in Section B.1.4.4. Refer to Appendix II from an overview of spare supply chains as identified by the research publication Harvey, P.A and Reed, R.A (2004) 'Rural Water Supply in Africa, Building Blocks for Handpump Sustainability', WEDC.
In relation to spare parts supplies, the agency should:

- Not implement projects where the supply of spare parts is difficult or likely to lead to malfunctioning systems due to limited access.
- Always support the technologies as per the national recommendations for standardisation.
- Make sure that communities know where they are to go to purchase spare parts.
- If supporting the setting up of a regional or district spare parts system, then the agency should not put artificial constraints on the chain (i.e. suppressing the prices or forming part of the chain themselves), if the intention is for the chain to be sustainable over the longer term.
- If the agency makes efforts to set up a local spare parts chain this should go hand in hand with the lobbying of Government, UNICEF and donors on the need for the setting up of a national spare parts network and a back up support mechanism.

B.1.4.5 Water resources availability

Water resources availability will affect the sustainability of water systems and good hygiene practice:

- Where there is plentiful water within a short distance but of bad quality, there may be less interest in sustaining improved supplies when they break down as alternative sources can be accessed easily.
- Where water is in very short supply and people have to walk long distances for water, for example in arid and semi-arid areas, more value may be given to the water, which may influence the willingness to maintain systems. But where communities are used to walking long distances for water and when men in a community control water sources, but women have to walk long distances to collect domestic water, the maintenance may still not be undertaken seriously.
- Where water is less available, it is more likely that it will be paid for at the point of collection. This makes the collection of money which can be available for operation and maintenance easier, but care still needs to be taken to ensure that the management of funds is undertaken and regulated properly.

Water resource availability and hence sustainability may be affected by:

- The climate and climate change, such as in the drought affected areas of northern Kenya, where droughts are recurring with greater frequency than in previous decades.
- Environmental protection and condition – refer to the examples in Section B.1.3.8 of water sources which changed after the cutting down of trees.
- The appropriate selection and design of technologies and collection systems appropriate to the climate and rainfall pattern.

B.1.4.6 Risks from natural disasters, conflicts and vulnerability

B.1.4.6.1 Sustainability in vulnerable contexts

Vulnerability

When someone is considered to be vulnerable they are in a fragile position and at risk of harm, whether because of their social status, their lack of capital assets or limited skills or abilities to be able to cope with situations which put them at risk. People may be vulnerable because of their age, disability, health status, gender, ethnicity, caste, religion, marital status (for example being a widow), being from a minority group, poverty, or other factors. When a person fits into a number of the groups above they are likely to be more vulnerable, for example an elderly female widow who is from a minority group and has a disability, is likely to be poor and likely to be one of the most vulnerable people in their community.

Vulnerable contexts

Vulnerable contexts are contexts where people's vulnerability to harm is likely to be at risk of increasing and coping capacities may be eroded. For example in conflict situations, family members may be killed leaving the woman or man on their own to support the household, whole sections of communities may be displaced breaking up communities who used to support each other and opportunities for working and earning an income may be decreased.

Communities may be fragmented due to displacement and break down of trust due to involvement or perceived involvement in one side of a conflict or another. This poses a number of challenges to community management, where communities are expected to work as a collaborative whole, expected to be equitable and able to overcome disputes in order to be able to manage community supplies.

Particular care is needed to ensure that the model of management in such contexts is selected with an understanding of these additional layers of community dynamics. It may be that in such circumstances that the operation of the system from a small scale private operator, or support for self supply and minor improvements at household level may be better than trying to support a community-wide system with a community committee. Refer to Section B.1.2.1 for further details of self supply and Section B.1.2.4 for small scale private providers / small water enterprises.

The following two Sections look in more detail at two particular vulnerable contexts, insecure or conflict affected and areas vulnerable to natural disasters and the particular issues which influence sustainability.

B.1.4.6.2 Sustainability in insecure contexts

Particular challenges from working in insecure contexts which can affect longer term sustainability:

- **Working with governments vs. ensuring political neutrality?** – Whilst developing linkages with intermediate level actors and in particular with governments is an important element to ensure longer term (if occasional) support for communities, working with governments poses additional challenges when they are seen to be on one side of a conflict. But supporting the development of good governance may contribute to help end the conflict. In civil war situations it can be extremely difficult to be seen as neutral with each side interpreting actions as an indication of support for the other side.
- **Working with insurgents when they control certain areas?** – In the same context, how closely can an INGO, civil society or other organisation work with insurgents when they control an area, and should this decision change when it is likely that the insurgents will eventually have full control and sovereignty over an area?
- **Neutrality of possible partner organisations?** – Working in partnership can be difficult during conflicts due to the limited control that one organisation has on the others' activities and also the risk that one will become seen as siding with one particular side of the conflict (which may be true or not true) and the impact this will then have on the organisations ability to work effectively in a particular area. Partnership can also however make organisations stronger and more secure in other contexts, where the presence of an international NGO makes the local organisation more secure and the local links and understanding that the local organisation has, making the international organisation more secure.
- **War damage, landmines, direct targeting water supplies** – In conflicts, water supplies can be targeted to prevent access to water to opposing sides or to the military. Inadvertent war damage and landmines can also be problems long after the cessation of fighting and can prevent continued access to water facilities.
- **Trained staff – killed, displaced, unable to access areas** – The displacement of people and the death of trained staff can affect the ability of communities to be able to continue operating and maintaining systems, particularly if only a few people have been trained or systems are complex. In the case of civil wars government staff who may previously have provided back up support to communities for difficult problems with systems, may not be able to access the area due to insecurity and threats to their safety and likewise the small private sector may also be constrained from travel or may be unwilling to travel to insecure areas.
- **Looting of pipes, transformers etc –** Even if systems are well maintained, conflicts can lead to the looting of valuable items such as pipes, pumps, engines and tools.
- **Law and order may break down increasing crime** – This may lead to a risk of damage to infrastructure from theft including in urban areas. Additional mechanisms may be needed to protect equipment and facilities. See the two examples below.

Security cage placed over an electric pump installed in Luz Davina school, in the urban area of Montelíbano, Córdoba, Colombia, after the first electric pump was stolen

Metal 'jacket' placed over the top of a hand-pump by the community water committee in the Chicken Soup Factory community in an urban area in Monrovia, Liberia to prevent theft and use without payment

- **No spare parts, economy damaged –** Where a conflict has continued for a number of years, if a spare parts network existed before, then the network may be destroyed through displacement or the worsening economy, or through shops and outlets closing due to looting. Therefore in particular it can be difficult for rural communities, but also for urban communities (where spare parts are no longer being imported), to access spare parts and hence maintain systems.
- **Very high inflation, no ability to save** – Where there is very high inflation, the collection of a regular sum of money to be kept for maintenance in the future is not reasonable as the money will devalue. Alternative solutions such as collecting money and immediately purchasing fast moving spare parts to be held for later use, or collecting money when it is needed, could be considered.
- **Marginalised and targeted groups may have limited formal education, remoteness** – Minority groups and people living in remote areas, may have limited formal education, and low literacy levels, which can pose challenges to the use of standard approaches for management which rely on these skills. Technologies which can be sustained in remote locations with limited access to spares and trained technicians, should be selected as a priority.
- **Changing population numbers –** forced or coerced displacement – It can be difficult to predict population numbers when people are facing displacement, whether forced, coerced, or as a result of fleeing from conflict. A system designed for 500 people will struggle to support a population of 2,000 over the longer term and the equipment is likely to wear out quicker.
- **Increasing populations following water improvements –** This can lead to increasing conflicts over water and land and lead to increased environmental stress and hence exacerbate conflicts.

WASH in rural areas during the Nepal civil war

The civil war in Nepal caused numerous problems for the sustainability of water systems in rural areas. Most rural areas were controlled by the Maoists and the Government and the military controlled mainly urban areas and their immediate surrounds. It was very difficult for government technicians who were trained in the maintenance and construction of systems to travel to help undertake repairs in the rural areas as their safety could not be guaranteed. The military had also banned the movement of metal items into the rural areas, including GS/GI pipes which meant that metal pipes had to be substituted with plastic pipes. The hill town of Dialekh suffered a number of times with its water supply being cut by the Maoists. The town was supplied by a spring with a long pipeline from a rural area. The pipeline passed through a military camp which was located near the towns high point (where the towns water reservoir was located), before it reached the town. Therefore the Maoists cut the pipe to stop water going to the military camp but at the same time meant the town supply was cut. The town Water User Group was also charging money for the use of water and this was also noted as a reason that the Maoists cut the pipe, as they did not agree that water should be paid for, but believed it should be given for free.

B.1.4.6.3 Sustainability in areas vulnerable to natural disasters

Natural disasters may result from the following hazards – flooding, drought, earthquakes, tsunami, landslides, volcanoes, hurricanes and strong winds, some of which can also be influenced by man-made actions. In disaster prone areas, the effect of a hazard event may lead to a disaster where the vulnerability is high versus the intensity of the event. The events may impact on sustainability through damage or complete destruction of facilities and through causing displacement of communities and trained people. Disaster Risk Reduction (Disaster Prevention, Mitigation and Preparedness) can contribute to reducing the possibility of damage or destruction and hence enhance sustainability.

Definitions: [99]

Disaster – A serious disruption of the functioning of a community or society causing widespread human, material, economic or environmental losses which exceeds the ability of the affected community or society to cope using its own resources.

Disaster risk reduction – The systematic development and application of policies, strategies and practices to minimise vulnerabilities, hazards and the unfolding of disaster impacts throughout a society, in the broad context of sustainable development.

The aim of DRR is to reduce risk, which will in turn enhance the chances of sustainability for WASH in disaster prone areas.

$$\text{Risk} = \frac{\text{hazard \& intensity of exposure x vulnerability}}{\text{Capacity to cope with the risk}}$$

DRR activities which can enhance sustainability of WASH facilities through DRR

Preparedness:

- **Disaster information management systems -** Sustainable structures with capacity to monitor changing conditions.
- ***Hazard mapping*** [100] – To identify risks, capacities and vulnerabilities of populations, to include risk zoning.
- ***Setting up early warning systems –*** Requires the commitment at both community levels as well as in the authorities to provide response to the early warnings.
- Capacity building for responding to disasters - Training households how to respond when there is a threat of a disaster to protect their facilities, building capacity of authorities as to how to clean and repair damaged facilities or inundated wells.

Mitigation:

- ***Design modifications –*** Taking care when siting facilities and designing them to take into consideration the hazard and the risk and where possible to design accordingly – for example earthquake resistant design, raised facilities in flood vulnerable areas.

Prevention:

- ***Education & reforestation programmes –*** Reducing problems from erosion and run-off.
- ***Establishment and following of codes or practice and land zoning –*** To prevent an event turning into a disaster.

99 / Noted as UN definitions in the DFID (2006) 'Reducing the Risk of Disasters – Helping to Achieve Sustainable Poverty Reduction in a Vulnerable World: A DFID Policy Paper'

100 / ACH & Coordinadora Nacional para la Reducción de Desastres Naturales, Guatamala (no date) Manual para la Estimación Cuantitiva de Riesgos Asociados a Diversas Amenazas

Examples of raised water facilities on a platform for access during flooding events

Ro'Ang Leu flood (2001) – raised handpump with platform

Raised household toilet
Kampong Cham, Cambodia

Disaster risk reduction is expensive and so the potential benefits needs to be weighed against the costs. Refer to Section B.2.3 for practical methodologies for DRR and in particular for improving design for mitigation.

B.1.5 RESPONDING IN SPECIFIC CONTEXTS

B.1.5.1 Urban, peri-urban

Urban and peri-urban areas can pose different challenges for the implementation of WASH projects and sustainability than rural areas. In particular consider the following:

- **There is often less community unity** - with people from differing areas of the country and different ethnic groups living in close proximity in urban communities – this can pose problems when considering 'community' projects – is there really a 'community' in all urban areas?
- **Solid waste can be a very significant problem –** with large numbers of people living in close proximity and lack of collection services, solid waste can easily build up into waste mountains and lead to increases in vermin, smell and other hazards.
- **Drainage more difficult as many road crossings** – drainage systems are more complex as there are more road crossings which are more expensive to construct and maintain.
- **Contamination risks between latrines and septic tanks and point water sources** – where shallow wells and latrines are constructed in close proximity, the risk of cross-contamination increases.

ACH & Coordinadora Nacional para la Reducción de Desastres Naturales, Guatamala (no date) Manual para la Estimación Cuantitiva de Riesgos Asociados a Diversas Amenazas

Without strong enforcement of minimum distance rules, it is difficult to regulate construction and in many peri-urban areas (and in particular in informal settlements) there may be little if any regulation.

- **Limited land and space between houses** - means re-building latrines or tanks when they are full can be difficult and emptying them via a standard suction tanker is also not always possible.
- **There may be many small scale entrepreneurs** – this is positive for the provision of small scale private services relating to the provision of WASH service such as the supply of water or latrine construction or the fabrication of hygiene items.
- **Access to skilled workforce –** it is easier to locate skilled personnel such as plumbers, builders or electricians.
- **Formal education & literacy levels of community members likely to be higher** – this means there are more options are open for management models for facilities.
- **Electricity may be available –** which is often absent in many rural areas.
- There is a possibility of connecting to the main water supply networks – and sewerage networks where they exit.
- **More likely to have a functional government departments and town or city authorities with skilled staff, even if not enough for the scale of the need** – an opportunity for advocacy to work through or with these structures encouraging more support to the peri-urban and rural areas.
- **There may be a large number of people who live on the streets** – but still need to use water, sanitation and hygiene facilities. Little has been discussed or documented on the water and sanitation needs of this group.
- **Theft may be a problem** – and hence additional protection may be needed when designing facilities.

Below are two case studies which highlight particular issues in relation to sustainability in urban areas:

Fiama Community & Chicken Soup Factory Community, Monrovia, Liberia
ACF supported water points in two urban communities in Monrovia, Liberia in 2004. In the first, Fiama, the community have managed to maintain their pump, but struggle with getting community members to contribute for using it. They started out trying to collect money from households but now they only collect money if there is a problem. There are also other sources in the community (although not enough for the population), including some taps from the mains supply where people pay 5 Liberian Dollars for 2 x 20 litre containers at the tap. People are happy to pay for the convenience of this supply, but do not want to pay 25 Liberian Dollars a month to have water from the handpump. They see the handpump water as free water that you have to abstract through your own effort. In the second community, Chicken Soup Factory, the community do not collect monthly but charge at the pump for people to take water at 5 Liberian dollar per 20 litre container, as the two ACF supported handpumps and boreholes are the only ones which do not dry up in the dry season in the community.

Community Empowerment & Development Association (CEDA), Monrovia, Liberia
CEDA was formed from a CBO and are assisting community dwellers in Monrovia. They tried to register from 1994-2004 as an INGO and succeeded in 2004. They are involved in 8 communities in Monrovia and involved in sanitation, garbage collection & disposal, drainage and agriculture. They undertake garbage collection every day except Fridays – they have a designated site to where they take the refuse (Government identifies swampy areas to spread refuse on) and they dispose of the refuse using a rented car. They have set up a drum programme under their self initiative – drums are given to houses and collected regularly. They charge 300 LD (5 USD) to collect for a ½ drum, 50 LD for a bucket and 100 LD (USD 1.7) for a bag. CEDA had a partnership with ACF in 2004 where they undertook garbage collection including major sites – ACF provided the drums (150 drums) and

training for hygiene and gave – 15 wheelbarrows & shovels, rented trucks & front end loader, 30-35 boots, rain suit, 104 nose masks, cutlass, sprayers etc. CEDA uses a community member's pick up – private car which they use once a week – when the car is not available it is a major constraint. CONCERN had also given – additional garbage tools, USD 3,000 for transportation, and a financial management workshop (before ACF). They have about 30 person manpower, mainly for hygiene promotion and waste collection, who are volunteers who get a small allowance. They also have staff which includes: Exec Director, Admin, Finance Officer, Assistant Exec Director, Technical Director and a Fee Supervisor. The biggest challenges they face are not having their own vehicle and no long term sponsor for support for more equipment, office rent and training.

Also refer to the following sections for urban case studies:

- Small water enterprises (SWEs) in Dar es Salaam – Section 1.2.4
- Family water supply with water sold to neighbours – Section 1.2.1
- Private water seller from northern Kenya – Section 1.2.4

B.1.5.2 Closing down IDP / refugee camps

Issues to consider for the closure or transition of IDP or refugee camps [101]:

a) When camps are in the process of either transition or closure:

General:

- If the camp is to be fully closed then decommissioning the latrines, water and other facilities and putting the land back to a good state, can help in further acceptance from the land owners to allow the IDPs or refugees to stay again in the future if a new influx occurs.

Water supply:

- Does the level of service need to be modified to consolidate the water supply or sanitation systems?
- In trade centres or locations with a high population, is there the capacity to manage and operate and maintain the systems over the longer term?
- Which community leaders and government or local authority departments would therefore need to be involved in discussions on the model for management, operation and maintenance?
- If handing over the equipment is there a need for a major rehabilitation or maintenance before hand over so that the equipment is in a good condition?
- Would it be more sustainable to remove pumps and engines and replace with handpumps (as per those commonly used and standardised within the sector and where spares are readily available)?

Excreta disposal:

- If the latrines were managed centrally, could it be possible to handover some to families as their own private property to own, use and operate and maintain?
- Is there a need to decommission / dismantle communal latrines and back fill them to make them safe before departure?

Solid waste disposal:

- Is there a need to backfill any waste pits or is there also a potential to hand over disposal sites to the local authority or local community? If so, what management system would need to be put into place?
- Are there medical waste pits which need securing, such as sharps pits? If the medical services are continuing from this site then it is possible that the management can be continued for the medical waste disposal sites. If it is not, then either the remainder of the medical waste should be incinerated or if this is not possible burned and buried. For sharps pits they should be filled in with concrete. For other hazardous wastes including out of date drugs, the countries health policies for disposal should be followed or referral made to WHO.

101 / This section has been adapted from information shared by ECHO relating to their on-going internal discussions on improving the LRRD processes for the WASH sector, particularly recommendations made by Benoit Collin, Regional WASH Advisor, East & the Horn of Africa.

b) Maintaining a minimum of WATSAN activities in the reduced size camp as a disaster risk reduction measure:

- Is there a possibility of a repeat of the disaster or conflict which caused the movement of people?
- If so then consider the need to keep a minimum of facilities open to enable a return of population.

c) Preparing the IDP or refugee place of return:

- What is the condition of the location of return in terms of water, hygiene and sanitation?
- Prioritise higher concentration locations first if planning new interventions, where the risk of infectious disease is largest.
- If supporting communities to construct latrines – always prioritise family latrines – do not implement communal latrines unless there is an external on-going support for operation and maintenance or the latrines are for institutions such as health centres or schools.

B.1.5.3 Sustainability in dryland areas

Context specific factors relating to sustainability in the drylands

Working in the drylands (arid and semi-arid lands), is not the same as working in other contexts. The drylands or arid and semi arid lands (ASALs) are complex and the dynamics are changing. Sustainability is particularly complicated in the dryland areas. A few of the key issues which should be understood with respect to working in the drylands and which will affect sustainability of WASH include:

- **Water management and linkages with pasture** – Pastoralist societies often have traditional management systems for water sources, which also link the use of the water to that of the surrounding pasture. Understanding traditional management systems may assist in designing appropriate management systems for new or improved water sources, although care also needs to be taken to ensure that women are not excluded from decision making, management, or access, as this may have been the case with traditional management systems. If communities do not understand and commit to new project designs, there may be limited engagement by the communities in undertaking maintenance of community structures after the agency leaves.
- **Land and water rights, land tenure systems and conflicts** – Customary rights to water and land are sometimes not the same as those identified in government laws and policies. This can lead to frictions and conflicts over the use of water sources, either between pastoralists, farmers and people of other livelihood bases, or between pastoralist clans or communities. Care must be taken that both customary and legal rights to water and land are understood when designing a new water project. Siting a water point inappropriately in an area where there are warring clans or where water is a scarce resource can lead to an increased risk of conflict over the new resource, or to the project becoming the target of an existing conflict. These could lead to the abandonment of the water source, sabotage, or loss of life.
- **Mobility, herd sizes, climate change and environmental degradation** – Pastoral communities have traditionally migrated with their cattle following a route sensitive to the availability of water and pasture. Today some migrate, others practice transhumance, where they have a settled base but move and come back to the same base, and others have become settled. People of other livelihood bases also live in the drylands. Putting in boreholes with high yields into dryland areas can have wide ranging impacts including modifying pastoral migration patterns and leading to increased environmental destruction around the water source, for some distance if the herd sizes are large. It can also lead to increasing settlement of farmers in semi-arid areas, increasing the demand on the water source, or to pastoralist communities moving into areas where people of other livelihood bases live, such as hunter-gathers. Both can then add additional stress to the water source or facility and the surrounding environment as well as on the populations concerned. Climate change is also modifying the availability of water and can hence affect the sustainability of existing or new sources over time.
- **Power in pastoral societies & gender** – Simply transferring the standard community management model to pastoral communities is likely to pose additional challenges to those usually faced

for sustainability over the longer term. This is particularly because of the stark power differences within pastoral societies and the power that large animal owners hold, versus those who have few animals and also the stark differences in power relating to gender. Different models for management should also be considered such as the use of the private sector or supporting small family groups or women's groups to manage sources or facilities. The power differences can lead to powerful animal herders taking over community water projects or committees after the external support agency has left and the reduction in access for the rest of the community or their disengagement in the planned operation and maintenance regimes. Women may also be excluded from access to water sources or may be expected to wait until the animals have taken their water. They may not have any information on or control over the funds which are collected for maintenance, nor have the power to ensure that the maintenance is undertaken. They may not have been involved in the decision making on the project and hence the project may not be relevant to their needs which may in turn reduce their interest in ensuring that the maintenance of the systems is undertaken.

- **Pastoralism in transition and pastoralist institutions** – The traditional pastoralist institutions, community relations and methods for sustaining communities are also changing or in transition. If the complexity of pastoral societies and their transition are not understood when designing programmes, there can be a risk of undermining what remains of traditional institutions and creating additional dependency, which could in turn reduce people's coping capacities further. This has an impact on sustainability as communities may wait for agencies to return or new ones to arrive, to undertake major rehabilitation or to provide new schemes, rather than maintaining the existing ones themselves. The changing nature of the drylands and communities within the drylands, poses significant challenges to humanitarian and development actors working to support communities within them. It poses most challenges on identifying the most appropriate management structure to ensure on-going sustainability.
- **Drought cycle management** – Efforts are being made to minimise the impacts of the increasing frequency of droughts by focussing on 'drought cycle management', which aims to build communities coping strategies so that the impacts of the droughts are less. The drought cycle includes stages where efforts are concentrated on drought mitigation, drought preparedness, emergency response and relief and reconstruction. Making progress on ensuring sustainable and well managed water resources has the multiple effect of contributing to improve people's coping capacities and hence in turn to reduce the risk of unnecessary movement or destitution, both of which will in turn reduce the chances of sustainability of water facilities and hence can form part of a vicious spiral.

'National Policy for the Sustainable Development of Arid and Semi Arid Lands of Kenya, April 2007'

This policy was prepared using a participatory approach and provides a shift in policy from one which viewed the Arid and Semi-Arid Lands (ASALs) as unproductive and pastoralism as an out-dated and ineffective mode of lifestyle and production, to a policy which acknowledges the productive contribution of the ASALs to Kenya and recognises the value of the traditional pastoral model and its suitability to the ecologically sensitive ASALs. The strategy has been developed with 3 different perspectives – short term (5 years), medium term (10-15 years) and long term (25-30 years).

As part of the policy it also highlights a range of gender issues and strategies which it proposes to respond to these issues, which are related to girls education, increasing access to credit facilities, improving the legal environment for women to own property, the use of gender sensitive extension materials.

In terms of water supply in the ASALs the policy proposes the following:

- Appropriate community owned water harvesting structures, such as pans and dams which are sustainable and environmentally friendly, are to be emphasised before the use of groundwater.
- New boreholes will only be drilled after comprehensive environmental and social assessments and when consensus is agreed by all stakeholders.
- The potential for irrigation will be explored in the semi-arid areas.
- The GoK efforts are now being supplemented by various actors including the private sector, local authorities and NGOs.
- Priority actions will include the protection and management of water catchment areas and the promotion and encouragement of the community / private sector in the management of water facilities.

- The GoK will explore the implementation of the full Water Act, through cost sharing and the privatisation of the urban supplies and in remote areas, where privatisation may not be feasible, through community groups running water facilities with the GoK providing back up services.
- A plan to build capacity for water facility rapid response teams to be financed by the communities and respective authorities.
- De-silting of dams and pans and opportunities for the treatment of water resources to be explored.

Under social and community development the policy also notes the need to expand training programmes and strengthen institutional capacity in ASAL management including the public and private sectors, NGOs and communities at all levels and it also encourages the development of human and social capital 'through the development of community groups and associations and business development groups, livestock marketing and farmers' cooperatives…'

Proven sustainable technologies for the drylands

The selection of appropriate technology for the drylands will be a key factor in the long term sustainability of the system. Deep boreholes may provide an all round service for water in very dry environments but they are expensive to construct, can have a negative impact on the environment due to the focus on a limited area of large numbers of people and animals and need a rigorous operation and maintenance regime.

PROVEN DRYLAND SUSTAINABLE TECHNOLOGIES

WATER SOURCE TYPE	DESCRIPTION [103]
Charco Dam	The shapes of these dams are like a calabash cut in half. They are dug deeper in the middle to try and reduce evaporation loss. These dams are common in the semi-arid parts of Tanzania.
Groundwater dam - sand storage dam	The dam impounds water in sediments caused to accumulate behind the dam and the water is protected from evaporation by the sand.
Groundwater dam - sub-surface dam	The dam is constructed below ground level and arrests the flow in a natural aquifer. The water is stored in the sand particles behind the dam and is protected from evaporation by the sand.
Earth reservoirs / deep pans collection of rain from the ground (hafirs)	Large ponds dug into natural depressions. Soil dug from the hafirs can be used to form banks surrounding the reservoir to increase its volume. Hafirs (in Sudan) typically range from 500 to 10,000 cubic meters, but larger ones can be dug with machinery.
Ponds / Pans	Natural depressions in the ground where rainwater gathers. Pans can be extended or deepened (and some are lined).
Rock catchments	These catch the water falling on a rock surface. The water is then caught in a dam structure or in a tank. The 'rock' can also be artificially formed by constructing a concrete surface.
Tanks for rainwater from roofs	A range of different sized tanks can be constructed to collect water from roofs. They can also be made from a range of materials – cement blocks, ferrocement, bricks, barbed wire and other materials.
Underground tanks with ground catchment (birkads)	Birkads are tanks excavated and lined with concrete blocks or ferro-cement which store water which is directed into it from the ground surface. Usually they are rectangular but this can result in cracking when they dry. Oval shaped birkads are stronger. Adding silt traps can reduce silt loads. The birkads can also be used as tanks to store water from tankers. Birkads can have roofs. A range of other materials can also be used for constructing underground tanks.
Valley dam	A valley dam is constructed across a naturally occurring valley to collect water in a reservoir.

103 / References for the information in this table are the series of publications by Nissen-Petersen et al on technologies for the drylands – refer to the reference box at the end of the section.

Useful drylands publications

There are wide range of publications and studies on the drylands and pastoralism, going back decades. **Understanding the complexities of working in the drylands**

- An excellent book which has been written by **IIRR, ACACIA & CordAid (2004) on 'Drought Cycle Management; A toolkit for the drylands of the Greater Horn',** provides a simplified and clear overview of the complex subjects relating to drought cycle management and the drylands including a range of issues which are relevant to sustainability. Although it has been written for East Africa, many of the issues included will be relevant to other dryland areas, even if specific cultural norms and practices may be different. Agencies staff working in the drylands for the first time should be encouraged to read this publication before starting work.
- Hesse, C & Cotula, L (2006) 'Climate Change and Pastoralists: Investing in people to respond to adversity', Sustainable Development Opinion, IIED, 2006
- WaterAid (2002) 'Social Conflict and Water; Lessons from north-east Tanzania', Discussion Paper, WaterAid

Useful technical documents available on technologies suitable for dryland areas:

- Nilsson, A (2005) 'Groundwater Dams for Small-Water Supply, ITDG
- Nissen-Petersen, E et al (2006) a series of publications funded by DANIDA on: Water Surveys and Designs; Water from Dry Riverbeds; Water from Roads; Water from Rock Outcrops; Water from Roofs; Water from Small and Dams. They provide excellent and comprehensive information on a wide variation of dryland sources and can be downloaded free from the website: **www.waterforaridland.com** or copies picked up free from the offices of ASAL Consultants

B.2 SUMMARY OF GOOD PRACTICE AND TOOLS

B.2.1 SUSTAINABILITY ANALYSIS TOOLS

The following analysis tools may be useful for ACF teams and partners to use to analyse the challenges to sustainability in the programme context and to start to consider appropriate responses.

B.2.1.1 Problem tree

The problem tree was recommended by Ockelford & Reed (2001) in their manual on participatory planning for integrated rural water supply and sanitation programmes[104] to help analyse the cause and effect relationships between various problems.

104 / Ockelford, J & Reed, R.A. (2001) 'Participatory Planning for Integrated Rural Water Supply and Sanitation Programmes: Guidelines and manual', WEDC, BGS, CSC

The problem tree for the problem: 'unsustainable water supplies for < 10 years'

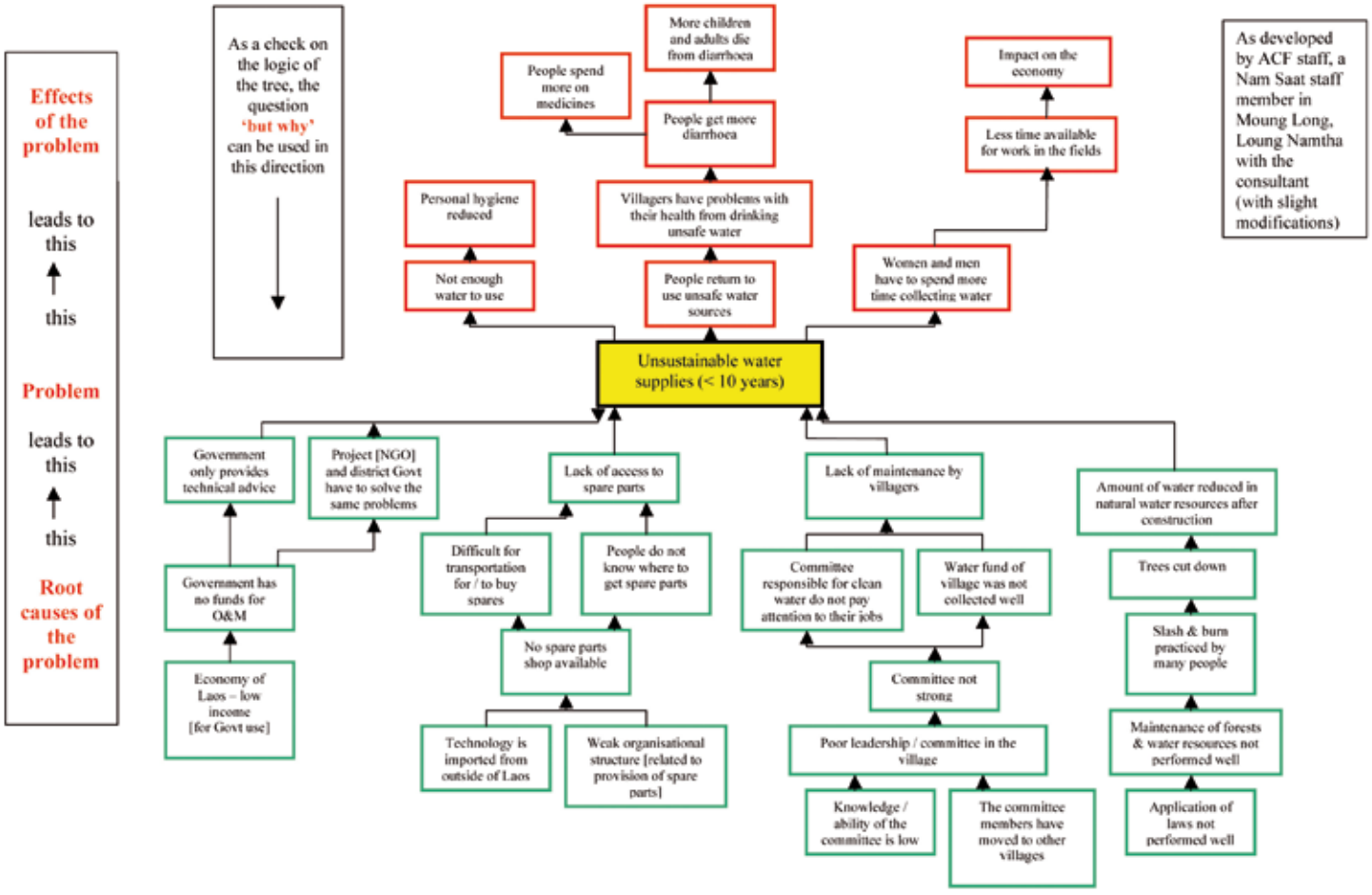
The problem tree being developed by ACF Lao PDR Moung Long Programme WASH team members, a representative of the District Nam Saat (government) & the consultant (through translation between Lao and English)

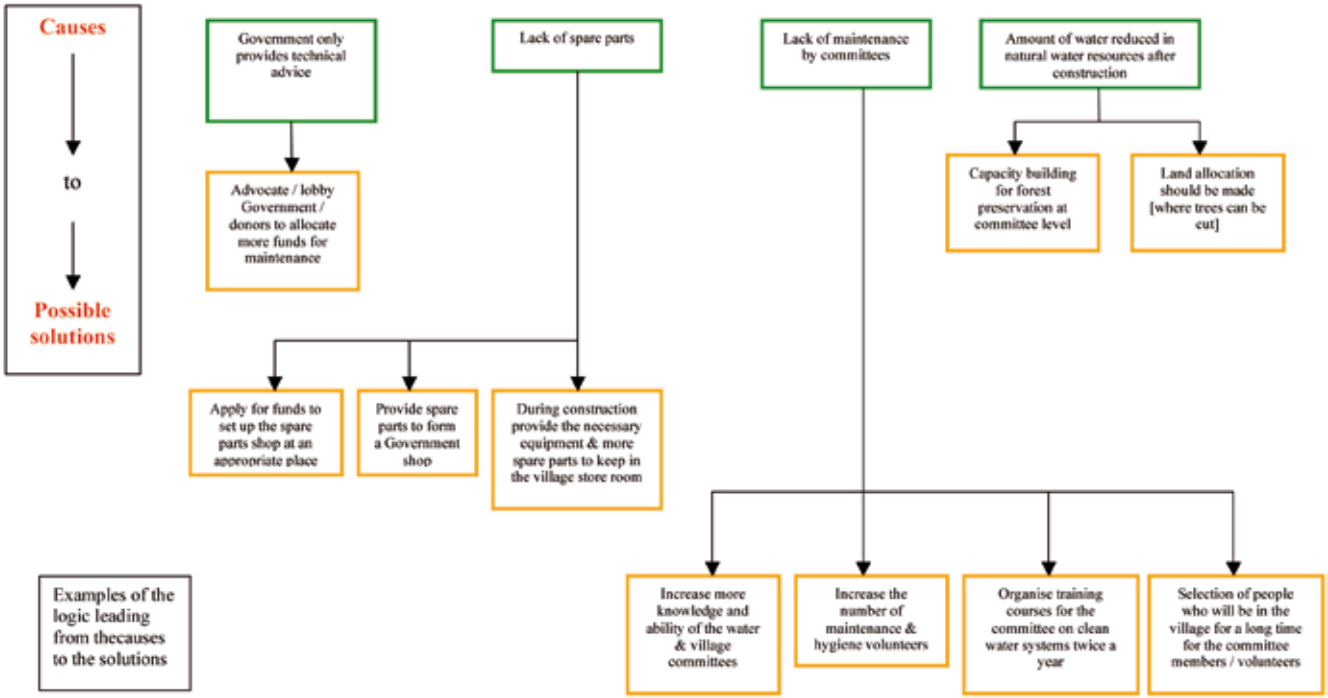
How to use the tool:

1. Prepare 3 different colour sets of cards – one for effects of the main problem, one for the causes and one for the solutions
2. Start from a particular problem (which forms the trunk)
3. Use the following steps:

- Move upwards to form the branches by asking what the impact of the problem will be? The question is repeated for each new level of problem.
- Move downward from the main problem by asking 'but why'?, or what has caused this problem? This is repeated for each new level of causes identified.
- There may need to be some debate on which effect and cause comes in which order on the tree and some re-arranging by the participants as the process unfolds
- Once the tree of trunk, branches and roots has been completed, then take each main block of roots or the causes and ask what could be the possible solutions? These can then be used for further debate during planning for a programme strategy.

Refer to the example on the following pages as identified for the Moung Long, Namtha province, Lao PDR context by staff and a local authority representative.


Effects of the problem
leads to this
this
Problem
leads to this
this
Root causes of the problem
As a check on the logic of the tree, the question 'but why' can be used in this direction
As developed by ACF staff, a Nam Saat staff member in Moung Long, Loung Namtha with the consultant (with slight modifications)
More children and adults die from diarrhoea
People spend more on medicines
People get more diarrhoea
Impact on the economy
Less time available for work in the fields
Personal hygiene reduced
Villagers have problems with their health from drinking unsafe water
Not enough water to use
People return to use unsafe water sources
Women and men have to spend more time collecting water
Unsustainable water supplies (< 10 years)
Government only provides technical advice
Project [NGO] and district Govt have to solve the same problems
Lack of access to spare parts
Lack of maintenance by villagers
Amount of water reduced in natural water resources after construction
Government has no funds for O&M
Difficult for transportation for / to buy spares
People do not know where to get spare parts
Committee responsible for clean water do not pay attention to their jobs
Water fund of village was not collected well
Trees cut down
Economy of Laos – low income [for Govt use]
No spare parts shop available
Committee not strong
Slash & burn practiced by many people
Technology is imported from outside of Laos
Weak organisational structure [related to provision of spare parts]
Poor leadership / committee in the village
Maintenance of forests & water resources not performed well
Knowledge / ability of the committee is low
The committee members have moved to other villages
Application of laws not performed well


Causes
to
Possible solutions
Government only provides technical advice
Advocate / lobby Government / donors to allocate more funds for maintenance
Lack of spare parts
Apply for funds to set up the spare parts shop at an appropriate place
Provide spare parts to form a Government shop
During construction provide the necessary equipment & more spare parts to keep in the village store room
Lack of maintenance by committees
Amount of water reduced in natural water resources after construction
Capacity building for forest preservation at committee level
Land allocation should be made [where trees can be cut]
Increase more knowledge and ability of the water & village committees
Increase the number of maintenance & hygiene volunteers
Organise training courses for the committee on clean water systems twice a year
Selection of people who will be in the village for a long time for the committee members / volunteers
Examples of the logic leading from thecauses to the solutions

B.2.1.2 Sustainability snapshot

Sustainability snapshot – WaterAid original version [105]

A description of the original 'Sustainability Snapshot' and how it was developed is explained in a paper by Steve Sugden of WaterAid, Malawi.

The aim of developing the sustainability snapshot was to develop a framework 'that would allow people to think more clearly about the sustainability of their work, which in turn would lead to improved programme effectiveness'. The tool was to be used by WaterAid partners and staff to think about the weaknesses in their approaches in their context and modify their approaches accordingly. The goal was to have a system which was: easy to understand and to use, quick, discussion provoking, applicable in all circumstances, non-prescriptive, and flexible in exceptional circumstances. The tool as described by Sugden (2001) can be seen in the following box:

The Sustainability Snapshot

Stage 1 – The aim of stage one is to undertake a quick evaluation of a community's ability to maintain the various types of water point your programme / project is installing. Complete the 'sustainability' grid for each type of water point with reference to the description below.

Project name:

Technology	Hand dug well with pump	Hand dug well with no pump	Borehole with hand-pump
Financial			
Technical skills			
Spare and equipment			

Financial – Which of the following is applicable to the type of water point in question?
1. No funds available for maintenance when needed?
2. Funds available but not sufficient for the most expensive maintenance process
3. Funds available and sufficient for the most expensive maintenance process

Technical skills – Which of the following is applicable to the type of water point in question?
1. Technical skills not available for maintenance when needed
2. Some technical skills for maintenance, but not for all
3. Technical skills for all maintenance processes available

NB – Available in this context means available to an average community member within a reasonable time.

Equipment and spare parts – Which of the following is applicable to the type of water point in question?
1. Not available when needed
2. Available but not for all repairs
3. Available for all repairs

Stage 2 – Comments – Given your above ranking, can you give a brief explanation of the reasons why you allocated such a score.

Stage 3 – The way forward – answer these questions:
- Is it reasonable to aim for 3's in all your examples above?
- What do you think you need to do differently to achieve '3's?
- Is this possible?

If you have a series of '3s' or if you have moved recently from a 2 to a 3, have you documented this process?

105 / Sugden, S (2001) Assessing sustainability – the sustainability snap shot, '27th WEDC Conference, People and Systems for Water, Sanitation & Health', Lusaka, Zambia, 2001

Expanded version of the sustainability snapshot
The sustainability snapshot tool has been developed into a more comprehensive tool for assessing the key factors of risk for sustainability. Refer to Appendix I for the tool, which was developed through field testing and feedback in three of the field work countries. Although the expanded tool is longer than the original tool, the feedback from the field teams was that the tool is helpful to undertake analysis of the possible risk factors for sustainability.

B.2.1.3 O&M audits and other tools

B.2.1.3.1 O&M audits [106]

The O&M audit was developed as a practical tool as part of the DANIDA sponsored Volta Region Community Water Supply & Sanitation Project in Ghana. The O&M audit is a 'systematic community-based activity, which uses participatory methodologies like interactive discussions, interviews, and guided walk along all structures of the facility. A critical review / analysis of all records helps the audit team to ask very searching questions, which make it almost impossible for the management body to misrepresent facts or provide the incorrect answers to impress the team. An effort is usually made by the audit team to reach out to stakeholders who were not present at the meeting for their opinions on any issue at stake'. The audits have also shown that over 80% of all of the O&M problems are of managerial and / or a financial nature and it has been shown that communities are very responsible to the audit process. The stages undertaken are highlighted in the box below.

Stages of an O&M Audit – Volta Region Community Water Supply & Sanitation Project, Ghana

1. ***Planning & preparation*** – Review of all literature on the community and advance communications with the Programme's District Office to arrange a date for the audit.
2. ***Audit visit – Includes:***
   - A meeting with the Chiefs, opinion leaders and WATSAN Committee / Board – which usually takes about 4 hours – they deliberately facilitate discussions on the situations (managerial and conflict) as they come up & they use the opportunity to lobby the community's support for the Water Committee / Board. If individuals, out of conflicts, refuse to participate in the audit visit meeting the team will go and visit them in their homes.
   - A joint technical inspection with the caretakers, WASH Committee / Board and any other interested participant. During the visits they also do coaching for the caretaker on operation and maintenance and to the WASH Committee / Board on sound managerial and financial procedures – as the team is more interested in getting problems understood and solved than in documenting them.
3. ***Report preparation*** – A detailed and comprehensive account of the O&M situation with specific recommendations for improvement.
4. ***Community debriefing –*** Presentation of the report at a community meeting. This is usually very interesting and the extent of the ignorance of the community in terms of O&M is often obvious here. They are also often anxious to understand the systems and acquire tools they can check the WATSAN Committee / Board with and especially in the management of finances. The team provides answers to their questions while also stressing the need for maximum cooperation with the WATSAN Committee / Board.
5. ***Follow-up*** – Filling in a simple follow-up form by the Field Extension Staff. It includes a summary of recommendations given by the Audit Team and this is taken to the community every two months and filled with yes / no answers as to whether action has been taken or not and remarks can also be noted. The form is sent to the Audit Team for analysis aimed at establishing the extent of res ponsiveness by the relevant stakeholders.

106 / Soley, F & Thogersen, J (2002) O&M audit, A practical tool for sustainability, 'Sustainable Environmental Sanitation & Water Services, 28th WEDC Conference', Kolkata (Calcutta), India, 2002

Resources required for the audit –

- Two man-days are usually needed by each of the team members (comprising of both engineering and socio-economist professionals) – 1 day for the audit, ½ day for preparation of the report and ½ day for the presentation to the community.
- An acknowledgement of the importance of the O&M intervention by all programme staff. The audit should not be seen as fault finding but it should be seen as an opportunity to solve identified problems whilst learning lessons for future improvement.

Benefits of the audit:

- It allows programme teams to have an interactive and learning / sharing session with the communities. Often information which has not been given to the field teams will come out during the audit process.
- It involves the whole community and thereby creates a good platform for common understanding and awareness about O&M issues.
- The audit intervention is primarily aimed at assisting communities to overcome O&M problems but the information is also valuable for improving the design of projects later & improving O&M training.

B.2.1.3.2 Methodology for Participatory Assessment (MPA)

A comprehensive assessment methodology was developed by the Water and Sanitation Programme (WSP) and the International Resources Centre (IRC) in the Netherlands under the Participatory and Learning Initiative (PLA) which was launched in 1997. The methodology provides empirical data, enables stakeholders at all levels to assess their situations and integrates gender and poverty analysis with the measurement of sustainability in water & sanitation[107].

It has been noted by some sector stakeholders that the method is very long and time-consuming which is a disadvantage, but below is an example of the methodology as used in Lao PDR[108] in 2001-2 for a sector wide assessment.

Assessment on Use & Sustainability of past RWSS services
'Methodology for Participatory Assessment' (MPA)

In 2001-2002, the Nam Saat Central led an assessment on use and sustainability of past RWSS services in Lao PDR.

Objectives **-**To assist the users of the facilities to identify and analyse the enabling and hindering factors related to the usage and sustainability of RWSS services; understand the factors promoting long term usage and sustainability of RWSS; increase the capacity and confidence of Nam Saat and sector partners on participatory assessment; to disseminate learning; and recommend improvements for RWSS projects.

Sustainability factors - The assessment looked at the following factors related to sustained water and sanitation services:

- **Effective functioning –** Water quality, water quantity, reliability & predictability / seasonality of water service available.
- **System quality** – Quality of design, construction, materials and workmanship, extent of water in the source.
- **Effective financing** – Cost coverage achieved for operation and maintenance, regularity of user payments, extent of equity and cost coverage in payment system, experience on the payment system.
- **Effective management** – Existence of a WASH committee, gender balance in the committee, level and timeliness of repairs, quality of budgeting and account keeping, transparency and selection of committee members.
- **Cross-cutting** – Cost-benefit and users participation & demand.

107 / WSP (2003) 'Sustainability Planning & Monitoring in Community Water Supply and Sanitation', Poster 3, Water & Development, Water Week 2003

108 / Sengsirichanh, V (2001) 'Assessment on Use and Sustainability of Past RWSS Services in Lao PDR; Study organised by Nam Saat Central in collaboration with local partners, NGOs and ESAs' presented at a national consultation workshop in Vientiane, 28th March 2001; Phanouvong, S & Sengsirichanh, V (2004) An assessment of past RWSS services in Lao PDR, 30th WEDC International Conference Vientiane, Lao PDR, 2004; and Chanthaphone, S (2002) 'Presentation Summary, National Consultation Workshop for past RWSS Services on Use and Sustainability', 28th March 2002

Selection of villages - It studied 38 villages (in 8 Provinces) with projects implemented by different agencies, using different technologies for the water supply, different levels of remoteness, different lengths of time after construction, ethnicity of the people in the village.

Methodology

- Participatory, demand-responsive, gender-specific, poverty-conscious.
- Study teams consisted of members of Nam Saat Central, Department of Hygiene, Water Supply Authority, Youth Union, Provincial & District Nam Saat, EU, SC Australia, Quaker Service, Care International, Concern Worldwide & ADRA (total 36 team members).
- From TOT & field testing the methodology to the final analysis and a national workshop = 1 year.

Steps in MPA:

1. **Community data inventory**
2. **Community social inventory** – Social classification (welfare classification), mapping access to services (social map), planning of transect walk and focus group meetings with sampling for to ensure a good representation.
3. **Review of service management** – Management and decision-making (committee interview, scale scoring), history of participation in service establishment (committee interview), training assessment – access and use (committee interview and social map), gender division of tasks and time (ladder 2, matrix voting, committee interview), financial management (committee interview, records review).
4. **Transect walks** – Source management (observation with checklists), quality of work rating (by users), rating of service by user groups (rating scale), meeting with un-served populations (discussion guide).
5. **Focus group meetings by class and gender –** Effective use (pocket / matrix voting), benefits and value for costs (ladder 1&2, card scoring), division of contributions (card sorting & 100 seeds), voice and choice (pocket voting / matrix voting).
6. **Community review assembly.**

B.2.2 PROGRAMMES & PROJECT CYCLES

B.2.2.1 General good practice for improving sustainability in programme design

CONSIDERATIONS		MORE INFORMATION
Disengagement / exit strategy	• While developing the initial design for a programme, the disengagement or exit strategy should be considered. • This will involve considering the possible length of the programme, what the aims are to leave behind after the programme, and how this will be achieved, including whether the programme should be implemented in partnership. • What will the disengagement strategy and from individual projects, programmes and then eventually the country? • What transitions and what time-lines are expected – use a number of different scenarios if appropriate.	Sections A.1.3 A.3.2
Partnership identification & development	• Whether the agency works in partnership or implements directly will have a number of implications for longer term sustainability and also the possibility for replication or continuation of work after the agency leaves. Is there any reason why the agency should not be working in partnership? • Identify possible partner organisations and undertake a staged application process for potential partners. • Wherever possible set up long MoUs of 5 years (or 3 years minimum), even where there is no confirmation of funding beyond a short period. The proposed activities in the MoU can be funding dependent, but the MoU states a principle of commitment to working together, dispute reduction mechanisms subject to annual reviews and effective progress and finding funding.	Section A.3.1.3

CONSIDERATIONS		MORE INFORMATION
Engaging with local level actors	• Who are the government departments – both national Ministries at regional or district level and the local authorities with the responsibility for water supply, sanitation & hygiene? • Could the agency contribute to building the capacity of key staff or departments? • How can the agency and partners engage the longer term intermediate actors in the projects they support from the beginning – including them in the project selection process, making them a signatory to village project approval, using them as trainers in the community training, requesting inspection of final works, inviting them to inauguration ceremonies etc? • Make sure that the community members know the different people who could be called upon for assistance if they face difficulties – local authority water, community development or health staff, local administrations or development committees, local NGOs etc. • Are networks or associations which are wider than a single community, a possibility for back up support to communities?	Section B.1.4.2
Management model identification	• Wherever possible contextual analysis should be undertaken at the beginning of the programme to identify from other organisations projects which management models can and do not work well in different contexts. • The automatic default that all community projects will be managed by a voluntary community committee should be challenged. This might be the most appropriate option, but not always. • What are the options for management models? • What existing structures exist which could be supported, or which new sub-committee could be linked? • Are there any examples of non-voluntary committee management which are succeeding? What are the challenges they face? • What are the challenges faced by the voluntary committee? Look back over time and see what has happened to previous community committees? What were the successes and gaps? • Could the private sector have a role in managing or operating and maintaining systems, even where the community still owns the infrastructure? • Provide communities with all information on the advantages and disadvantages of the different management models. • What institutional strengthening is needed for sustainability?	Section B.1.2
Continuing support to communities	• Back-stopping support will be included in all new projects for previous communities, for occasional visits to see the progress and work with communities to solve any problems they are not being able to solve on their own. For example: a. Community relations become difficult and there is a disagreement which affects the management of the scheme b. Misuse of money	Section B.1.4.2

CONSIDERATIONS		MORE INFORMATION
	c. Breakdown of trust between the community and the committee d. Large technical problems the village cannot solve c. Breakdown of trust between the community and the committee d. Large technical problems the village cannot solve • What is the ideal length of time that hygiene & sanitation activities should be undertaken with communities to promote sustainable change? • Can follow up activities for hygiene promotion and sanitation continue as part of occasional backstopping support for several years after the implementation of the water project has been completed? • Being clear about phases of projects and responsibilities at each stage (so as to not create dependency).	
Research & capitalisation	• Experience and knowledge of successes and challenges and methods to overcome them to help encourage sustainability will be documented / capitalised and information shared with other sector stakeholders. • Where programme teams are struggling with a certain problem relating to sustainability, such as mismanagement of funds or responding to gender, are there other programmes which could be visited which are using different approaches and to discuss strategies between them? • Could particular issues be discussed at sector coordination meetings? • If there is a particular issue which needs looking into in more depth would it be valuable to bring in consultants or local research institutions to provide analyses and recommendations? • Make sure key programmes and support information is effectively handed over at the change of staff and closure of the programme.	Section A.3.1.2
Standardisation of approaches	• Consider standardising the approaches for the team to ensure that they undertake all of the steps with each community. However allow flexibility that the '20 steps' (or other number) can be adapted depending on the community's choice for management model and other particular needs, or which may include additional work due to particular community dynamics problems. • Consider how the programme can best align itself with national sector policies and approaches. Increasing alignment makes it easier to engage local level actors and makes it more feasible for on-going support. • Standardisation of handpumps and technologies makes the availability of spares and the technical skill and ability to repair them more likely.	Section B.1.3.6

CONSIDERATIONS		MORE INFORMATION
Selection of projects & coverage	• Remaining in one area and ensuring a good coverage of projects has a number of advantages, including more chance to provide capacity building opportunities for staff of local intermediate level actors such as local authorities, and to develop links between communities and the same, as well as increasing the chance for the sustainable availability of spares. • Where the local authorities or other intermediate level actors and communities how more of interest in engagement in the projects and their likelihood to continue to engage over the longer term, could also be used as a selection criteria. See the case study from Azerbaijan in Section B.1.4.2	

Gender and equity also have implications for the appropriateness of the intervention and in turn sustainability.

Why considering gender and equity is essential for sustainability?
It is essential that gender and equity related issues are responded to throughout the programme and the project cycle as they can have a significant impact on whether the projects will end up benefiting the most vulnerable and poorest and impacts on sustainability, for example:

- Without care and effort on the part of the programme team and partner organisations the default for many communities because of cultural norms and traditions is that women may be excluded from the project process and management and operation and maintenance of water and sanitation systems and discussions, paid posts and decision making may remain with the men.
- Women and children often bear the heaviest burden from malfunctioning water and sanitation systems and hence may have more to gain from making the management and operation of systems work.
- Women and children often are responsible for collecting water and managing traditional sources (not always but often) and hence have more knowledge on the sources. By-passing their knowledge can lead to poor choices or design.
- Men are often identified for posts which are more commonly paid, such as pump mechanics and women more often for unpaid posts such as hygiene promoters. Women have been shown to be reliable pump mechanics and there is no reason why they cannot be as good as or better than a man.
- Sometimes all hygiene promoters may be women, which may mean that there may also be a challenge to also reach the men and them taking hygiene promotion seriously and sustaining it as the responsibility of all family members.
- In many contexts communities will note that women are seen as more trustworthy than men and hence are recruited to the treasurer post – misuse of money is one of the big risk factors for sustainability.
- If the poorest and most vulnerable people are not consulted during the project design they may not be able to benefit as much from the project as other community members and the project may not meet their needs. For example the poorest may live on the outskirts of settlements but the project may be centralised. And if the selection of the technology is not in line with the income level of the users, this will have negative impacts on the capacity of the users to be able to maintain the system longer term and to replicate the project at the end of its design lifetime.
- Where there are people from mixed ethnicities or groups within a community, there may be

different needs surrounding a water, hygiene or sanitation project. If these are not identified and also catered for at the beginning of the project, the project may be continued with invalid assumptions which will then not lead to the commitment for longer term sustainability from the whole community.

- If facilities are designed in a location which makes women or children vulnerable to attack or violence, they are unlikely to use the facility and hence less likely to contribute to its sustainability.

Good practice for responding to gender and equity for the improvement of sustainability:
General good practice in relation to responding to gender and equity in projects, which will in turn contributing to responding to the issues above which influence sustainability include:

1. Ensure that teams include men, women and people from minority groups and where possible women to speak with women and men with men at key stages of the programme.
2. Use appropriate participatory methodologies to ensure that those less likely or able to speak are able to contribute to the design of the project and express their views freely.
3. Provide training for staff to learn how to respond to gender and equity issues.
4. Use a range of different techniques to encourage the respect of women as well as men and to strengthen their roles in committees or as managers of water, sanitation or hygiene projects – a range of participatory methodologies can be used for this, as well as using role models, influencing community leaders, use village to village visits to villages where women are more supported, and providing additional support over a longer time period where women are being excluded or ignored.
5. Determine gender and social profiles of communities in which the programmes will work. Understand - the roles and responsibilities of men and women in different social groupings, who has decision making power over what, who owns and controls what, what are the possible cultural norms related to men and women of different social groupings (elderly, young, children, and people from different ethnic groups) including in relation to WASH? This information will help to ensure that the design of the project considers who has access to funds to pay for maintenance, who will have the most reason to undertake sustainability because of the impact on them when it is not done etc.
6. Consider women as well as men for technical tasks such as pump maintenance – there is no evidence to show that women are less capable to undertake this task but some arguments that they may have more reason to undertake an efficient maintenance regime.
7. Provide on-going support and confidence building to women on committees – where there are particular problems with women not being respected then increase the frequency of support and over a longer period. Undertake advocacy as part of the support.
8. Ensure that there are a reasonable number of women on mixed committees as well as men, and not just one single member – ideally the women's representation should be at least 30% and ideally 50% or greater. The number of women on a committee as well as men does not automatically mean their voices are heard, but having more on a committee will help for the women to give each other support and hopefully allow them to have access to information. They may also as a group be able to pressurise the men and the committee to take action when there are problems with sustainability.
9. Where it is impossible for women to be respected and involved in committees consider supporting women only committees or WASH projects, such as though a women's cooperative or group.
10. Engage women and men elders in the project – they may have useful historical knowledge of previous problems relating to sustainability and hence allow the new programme to respond to these, and they may be helpful in conflict resolution relating to stolen money, mismanagement or break down of trust.

B.2.2.2 Considering sustainability in pre-feasibility & assessments

CONSIDERATIONS		REFERENCE
Contextual analysis	• Consider the wider socio-political, financial, economic context and particular issues relating to vulnerable contexts before considering options for programmes. • Use the expanded sustainability snapshot (Section B.2.1.2) with the agency team / partner team to consider the risk factors for the particular programme or project area or use other tools on B.2.1. • Use the risk factors identified from undertaking the sustainability snapshot to suggest possible ways to minimise the risks.	Section B2.1
Understanding community capacities, dynamics and context	Understand / identify: • Community leaders and structure. • Current or previous projects and evidence of ability to manage these projects over the longer term. • Trained persons in the community. • Identification of persons able to link with sector institutions or other intermediary actors. • Gender and social analysis. • Funds available – from whom, how the vulnerable and poorest will pay? • Distance to nearest town and transport (in relation to spare parts, locating mechanics or local intermediary actors). • Water resource availability – across the different seasons and in drought years. • Risks to water resource sustainability (such as deforestation)?	Section B.1.3.2 B.1.3.4 B.1.3.5
Selecting communities likely to sustain projects	Consider both need and level of demand. If a community shows it demands the project them they are more likely to sustain the end outputs. Demand is however difficult to judge but may be indicated by: • A direct request from the community for the project. • Previous attempts to undertake projects themselves. • Previous efforts to maintain existing facilities or manage other projects at a community level (showing that the community is not just waiting for a new project to replace their old one without making an effort on O&M). • Efforts made to raise % capital costs. • A high % of people from the whole community who turn up to community meetings to discuss the project. • 70% of the whole community agrees to the project. • Have a transparent selection process – criteria – including both seriousness / demand by the communities and the level of need (include a level of competition in the process).	Section B.2.1

B.2.2.3 Considering sustainability in project proposal writing & fund identification

CONSIDERATIONS		MORE INFORMATION
Budget lines & HR	• Ensure a budget line for evaluations and regular lesson learning from the resultant sustainability of previous projects. • Include a budget for a separate team (or time for the main team) to undertake follow up work in previous communities. This should be scheduled in with a time schedule and outputs. Add a clear justification. • Prioritise the model of having one WASH coordinator and a number of project managers who are national rather than several international programme managers. Preference to be given to the recruitment of national management staff wherever possible and feasible. • Capacity building for local staff and intermediate level actors should be included as a budget line (for the transition of approaches between emergency and development, for management etc) and for capacity for supporting communities over the longer term. • Can national staff who are not used to writing proposals be involved in writing the new ones? It is difficult to get experience if no opportunities are offered. • Provide opportunities for staff to attend training on project proposal writing / pair an experienced staff member to support someone new to proposal writing. • Incorporate a budget line to cover training on gender and equity and for additional requirements of the design based on specific gender or equity related needs, such as additional time to work with the poorest communities.	A.3.1.1
Project proposal writing	Make sure that the following has been considered in relation to sustainability & disengagement: • Acknowledge the challenges that there are for sustainability – don't just describe a few activities related to the training of committees and assume this is enough – in many cases it won't be even if the training provided is of very good quality. Be honest about the challenges but then also describe the solutions that in the agency is proposing to try and tackle some of the challenges. • Use the overview of good practice in projects (Section B.1.1) as a guide to provoke thought as to the elements of the project which will contribute to sustainability. • Include the organisations disengagement / exit strategy (from the project, but also considering from the programme area at a later date). • Describe in the agency's goals for sustainability. Include the local or national guidance for sustainability, if available. • Describe how the agency will work in partnership for long term impact through capacity & institution building. Include consideration on partner identification, partner institution building and staff capacity building.	Section B.1.1 and various other sections in Section B.1

CONSIDERATIONS		MORE INFORMATION
	• Describe how the agency will facilitate the development of practical links with local intermediate level actors such as the local authorities, decentralised departments, local NGOs etc for long term back stopping support? • How women and the poorer or more vulnerable people will be supported to be involved in the project design, management and operation and maintenance. • Clarifying how the agency's projects will ensure that the technologies and methodologies they support are coherent with the governments longer term development policy. • What advocacy work will be undertaken to encourage the sector to support the capacity building of the government and other intermediate level actors for longer term back up support to communities? • Consider different options for management model as well as levels of technology (as per the sanitation ladder) and leave some of this decision up to individual communities with technical support. • Consider specific strategies to help communities improve the financial management of the on-going water funds – this is often a major risk area for projects to fail. Can some form of audit process be designed into the project management schemes at community level? • How the spares for the technologies supported will be obtained by the communities' longer term? • How risks from natural disasters, conflicts or other vulnerabilities will be minimised?	

B.2.2.4 Considering sustainability in design, implementation, management and O&M

CONSIDERATIONS		MORE INFORMATION
Design and implementation	• Ensure that the technology selected for the project (ideally by the community versus a range of options) is easy to maintain and ideally also to replicate (although this may not always be possible – particularly in difficult conditions like high water tables). It should be appropriate and low-cost. • The technology should be suited to the community's economic capacity. • The technology should be selected in line with governments recommended standards. • The technology should be selected to ensure the easy replacement of spare parts or consumables.	Section B.1.3

CONSIDERATIONS		MORE INFORMATION
	• Ensure that the sanitation facility is designed to the desired specification and standard which the householder selects (offer a selection of levels as per the 'sanitation ladder'). If adding additional features such as building a latrine and bathroom unit can increase demand, then consider if this can be incorporated. • Research the reason why people construct latrines and use this information to promote the take up as part of the promotion campaign[109]. • Ensure that the technology selected for the project (ideally by the community versus a range of options) is easy to maintain and ideally also to replicate (although this may not always be possible – particularly in difficult conditions like high water tables). It should be appropriate and low-cost. • The technology should be suited to the community's economic capacity. • The technology should be selected in line with governments recommended standards. • The technology should be selected to ensure the easy replacement of spare parts or consumables. • Ensure that the sanitation facility is designed to the desired specification and standard which the householder selects (offer a selection of levels as per the 'sanitation ladder'). If adding additional features such as building a latrine and bathroom unit can increase demand, then consider if this can be incorporated. • Research the reason why people construct latrines and use this information to promote the take up as part of the promotion campaign[109]. • Engage local private artisans in the construction of latrine slabs, installing handpumps, or any construction activity which may be replicated in the future. This activity can then be used as a new income generating activity to add to existing skills. • Support latrine programmes in villages are providing household level latrines (except for institutions such as schools or health centres). Encourage the community hygiene promoters to monitor the household latrines constructed in the communities, perhaps through competitions or other community exercises to encourage effective management and O&M. For a discussion on communal latrines see the box below. • Support companies to be further developed for emptying latrines, helping them to ensure improved conditions of work and safety.	

109 / This is in line with the principles of the social marketing approach. Often the reasons for people to take up latrines are not health related but for increased status, to have somewhere to take visitors, to be able to go to the toilet when it is raining (where there is a roof), to prevent stepping on a snake, to make going to the toilet easier when pregnant, to provide additional privacy during menstruation or other.

CONSIDERATIONS	MORE INFORMATION
• Provide safety equipment and waste moving vehicles for solid waste collectors and groups. Support solid waste collection organisations to raise an income through waste collection in urban areas by charging households for collection. Vehicles or alternative transport will be particularly important for the success of medium and larger scale schemes[110]. • An 'inauguration' ceremony (which is less top down) should be preferred over a 'handover ceremony'. Be clear on ownership of project and facilities – if there is a need for a 'handover' then the 'ownership' was with the wrong owner up to this point. To encourage a community ownership or sense of ownership the project should be the communities from the start.	

Communal latrines

Communal latrines have generally been rejected as a feasible option in the development field for some time. The reason for this is that sustaining the maintenance of communal latrines is very difficult. There are some exceptions, which include communal latrines for institutions such as schools or health facilities where there is a clear line for ownership and responsibility for maintenance, or in circumstances where the government is able to provide ongoing management for operation and cleanliness.

There are also exceptions to the generally agreed rule, that communal latrines are not an acceptable solution to sanitation provision, and this is where there is a strong and sustainable management system to sustain them on a pay and use basis. The clear success story in this area is by Sulabh International Social Society Organisation in India, which has constructed, manages and maintains pay as you use latrines throughout cities in India which are self sustaining. **http://www.sulabhinternational.org/pg05.htm**

The case of Sulabh International is however still unusual and many communal latrines soon fall into bad hygienic conditions and poor repair, often becoming a health hazard themselves.

In IDP and camp situations communal latrines can also become hazardous if responsibility is not taken to ensure on-going management and cleaning and emptying when full. In Sri Lanka, ACF found that by allocating a latrine to 3 families living nearby and giving each family a key, meant that the latrines in a camp situation were well maintained.

Communal latrines should not be attempted in any environment UNLESS ownership and responsibility can be ENSURED for the on-going management, operation and maintenance, which will include emptying the pit at intervals where the communal latrine does not feed into a sewer system. It is recommended by the author of this report, that unless the communal latrine is a profitable business venture, in line with the model by Sulabh International, that international humanitarian agencies should not consider supporting them. An exception to this is in a camp context or for institutions and then a mechanism for on-going maintenance must be ensured.

110/CEDA in Liberia are currently sustaining their organisation by charging for collecting household waste. They however are struggling mostly with having to hire a vehicle for the collection process as they do not have their own.

CONSIDERATIONS		MORE INFORMATION
Enhancing the sustainability of community management structures and committees over the longer term	• Be honest and straight forwards with the communities about theagency's exit plans from the beginning. • The support to the committee from the agency's project should continue over a longer term than a single humanitarian contract. Design new projects to include a % of the total sum to be used for a follow up / back up support team to give occasional (but decreasing levels) of support to past communities. • The agency must be very clear that the follow up periods will only be very occasional and that they will not involve added monetary inputs from the agency, but just to check how things are going. Where things are going smoothly, fewer visits will be needed, but where there are clear problems, more visits could be included. It is suggested that a minimum of 3 years project and back up support should be provided to communities managing water facilities[111]. • The hygiene and sanitation components of the WASH projects should also ideally continue over a reasonably long period to help to ensure that they encourage long term behaviour change and encourage people to take up latrine use[112]. Therefore even if the initial implementation for the water project is relatively short, the hygiene and sanitation components should be extended. The extension of these components could also be tied in with back stopping monitoring for the management of the water facility. The programme should be innovative, including a variety of methodologies used for such extended programmes to ensure that people's attention is kept. • The more that local intermediate level actors can be involved in the project from the beginning – including the local authorities, the Ministries at District level, local NGOs (where appropriate) and the more the WASH programme is tied in with existing structures, policies and strategies, the more likely that the intermediate level actors will be able to help facilitate the communities to solve problems. Problem solving and who the communities can call on for assistance if they have problems they are unable to solve should be discussed during the project capacity building stages. • Make sure that the routes for communication when there are problems are clear. Consider if there are existing structures or persons through whom communications of problems can be channelled for follow up support (for example existing village health workers to the district health department where they may regularly report).	Section B.1.3.2

111/ The Lao PDR programme in Muang Long (District) in Loung Namtha Province, reduces the number of new projects it implements each year but provides back-stopping support to the previous projects, which increase in number each year. These models of projects have been funded initially for several years by ECHO and now the project has transitioned to a 3 year EU food security project.

112 / Cairncross, S & Shordt, K (2004) It does last! Some findings from a multi-country study of hygiene sustainability, in 'Waterlines' Vol 22, No 3, January 2004

CONSIDERATIONS	MORE INFORMATION
• Invite responsible persons from intermediate level actors, such as local authorities, decentralised departments of central government to be involved in the activities of the programme, to take part as co-trainers, or as a minimum to visit the communities for inauguration ceremonies. If the intermediate level actors are involved in the programme or in trainings for the community (ideally as facilitators, but otherwise as participants), the more likely they will be able to understand the project processes and be able to assist when there are problems. • Ensure that government is consulted on project village selection at the beginning and that the project is registered with the local authorities and national databases when completed. • Incorporate income generating opportunities into the project so that the committee members or hygiene promoters can have a small income or money can be raised for maintenance. A few examples of income generation (see Section B.1.3.7) could include: Having a small vegetable garden at the waste outlet of the water point; Setting up a waste collection service (in low income urban areas) [113]; Providing a service for re-impregnating mosquito nets on a regular basis and being paid per net[114] ; Setting up a tree nursery[115] ; Providing small animals such as poultry for the selling of eggs; Selling latrine slabs, small culverts, other WASH related items[116] ; • Consider how the community can train subsequent committee members when old ones leave (or are asked to leave in the case of misappropriation of funds or inaction). Can the committee be trained as to how to train their successors? Could new trainings be offered if the agency's programmes are still working in the same area? Could local NGO partners offer follow up trainings? Could the local authorities or government staff offer follow up occasional training where members are new? If the local intermediary level actors have been involved as trainers during the agency's projects they are more likely to have the capacity to provide follow up training if required at a later date. Provision of such training would be easier if all organisations are working to similar standardised methodologies and in line with Government policies.	

113 / This has been undertaken by the NGO (formed from a CBO), Community Empowerment and Development Association (CEDA) in Monrovia, Liberia. ACF supported the organisation, which was already working with the community in the peri-urban areas in activities clearing up areas of the environment, with waste collection equipment and also 150 oil drums. These oil drums they use to provide a service where people pay a fee for their collection on a regular basis to dispose of the waste collected in them. This activity helps the LNGO to pay a few salary / per diems and pay a small sum to the people who help to clean the environment on a voluntary basis.
114 / This is being supported as part of the Lao PDR, Moung Long Programme in Luang Namtha Province.
115 / A women's self formed sanitation group in Mandera town in northern Kenya, started a tree nursery to help raise an income to help cover their children's school fees and other expenses.
116 / This is a method of fundraising used by some local NGOs (such as the Liberia Environmental Care Organisation) in Bong County, Liberia.

CONSIDERATIONS		MORE INFORMATION
Training for management and O&M	• As well as classroom and practical training it is useful to provide some follow up back up with some on-the-job supervision, particularly for pump mechanics or treasurers. • How will training be repeated over time to build the capacity of new members of committees or for maintenance? Can local intermediate level actors provide opportunities for future training and refresher training? • Consider training more people from each village to allow some flexibility for people leaving the role, leaving the village or passing away. Sometimes also communities decide to change the committee totally. • Use village to village visits as training opportunities with communities learning from each other. • Make sure that the training is suitably designed for the different participants, to ensure that they feel able to engage and understand the content. This will mean considering literacy levels, gender and other social related issues, including ensuring that people feel comfortable to ask questions. Ensure that it involves both women and men and people of minority groups.	Section B.1.3.2
Managing finances (Building trust between the communities and committees on the area of financial management)	• Be clear with the community early on, as to the risks of the management of funds and ask them to agree on a mechanism for management and checking. • Support the community to develop by-laws and write minutes of meetings[117]. • If there is a water structure and water is sold, be clear with the wider community on the rough level of possible income that could be received from selling the water from the facility (a range of possible sums). Include in the same discussion the expected costs of outgoings and hence the remainder sums which are likely. The people in charge of the money should then be expected to account for the money they collect and spend on the behalf of the community. • Encourage the community to ask about the finances and to ask for an explanation when the situation is not clearly explained, or they are concerned something is not quite correct or the money is misused or 'being eaten'. • When the community cannot solve a problem with the money on their own, then they should ask for help from the Chief, or the government representatives at community or district level if necessary. • Provide good quality training to a number of people in the community on the accountancy method for the funds. One person should be allocated as treasurer, but others can be allocated to check the sums and accounting. Continue back up support for the financial management and methods for transparency for as long as possible. • Include an 'auditor' role in the water & sanitation committee.	Sections B.1.2.3 B.1.3.2 B.1.3.3

117 / Method from RACIDA in Mandera, Kenya.

CONSIDERATIONS	MORE INFORMATION
• Ensure that there are a reasonable proportion of women on the committee as well as men and that the women are supported for some time. Women are often more trusted in handling money and in many societies will be selected as a treasurer. • The Treasurer post is given to a rich person so that if they misuse the money it can easily be regained by taking some of their animals or other assets[118]. • Ideally money raised from selling water or collected for maintenance should be put into a bank account of the committee or group responsible for the management. The bank account should have more than one signature to be able to take out the money[119]. However whether the committee or group is able to have a bank account will depend on its legal status and whether within law they are able to have one, and the community's distance to a bank. • Where there is a high level of inflation (and hence money devalues quickly), or where there is a risk of the money being stolen or misused, the money could be used to buy additional spares immediately[120] (or to purchase some assets which can be sold when it is needed to use the money for maintenance?). Where the money is kept in people's houses, it may be appropriate to split up the money between several people so that the money is less likely to be stolen. However a clear record should be kept of who is keeping what amount. • When sums of money are collected or spent, the record should be kept on an accountancy sheet and signed by several committee members. In addition the money added or taken away could also be written on a piece of paper (and signed) and put in with the money, so that there is a second record which can be used for double checking should there be any problem with the record sheet or a disagreement[121]. • One of the most important elements of building trust between the committee and the community on the management of money is the transparency with which the committee share the information with the community. Methods for sharing the information with the wider community: ■ Reports of activities, income and expenditure, at regular committee meetings (probably best at general community or General Assembly meetings (than only ones arranged by the water committee) as a wider group of people can be reached[122]. ■ Written reports – these can be placed on community no-	

118 / Method suggested by Phonesomephan Village, Long District, Lao PDR
119 / In one rural district in northern Tanzania the signatures required a representative from the water committee and the District Water Engineer.
120 / Method used by Water Committees in Zimbabwe
121 / Method used in Gboyouta Village, Kokoyah District, Bong County, Liberia
122 / In Tokpalas village in Jorquelleh District, Bong County in Liberia, the Community Water Committee meets with the whole community each month at a general community meeting and they report on the situation.

CONSIDERATIONS		MORE INFORMATION
	tice boards at regular intervals. This method is less useful when less people are literate, but if a number of people are literate they can at least read the information to other members who can then have the opportunity to question. • The community to agree a small incentive payment to each of the committee members as a % of the money collected for their efforts in managing the scheme. This should be transparent and agreed by the community and in writing signed by key members of the community and observers. By making the sum a % of the money collected, it gives an incentive to the committee to undertake the collections and also may help to sustain the commitment over the longer term[123] and also hopefully help to reduce the tendency to misuse the money. • As alternatives to the committees managing the facilities and the funds, there are a number of alternative models of management, (see Section B.1.2) for example: ■ The facility is owned, managed and maintained by a cooperative who gain monetarily from their work and this money which is used by the members of the cooperative. ■ The community asks a private individual to manage the system, with an agreed contract and requirements from each side. The private operator will need to get sufficient financial benefit to ensure they will pay enough attention to the management and operation and maintenance.	
General management and O&M	• The facility is owned, managed and maintained by a cooperative who gain monetarily from their work. • The community asks a private individual to manage the system, with an agreed contract and requirements from each side. The private operator will need to get sufficient financial benefit to ensure they will pay enough attention to the management and operation and maintenance. • The community manages the system themselves through a committee system. They may pay for an operator, caretaker or for a person to collect the money if water is paid for, and for people to do maintenance, or they may undertake these tasks free as part of community service. • Support household level facilities or household connections. Community members may often be prepared to pay much more if they have a household level of service[124].	Sections B.1.2 B.1.3.2

123 / The opinions on payments to committees, varies from country to country. In some countries, this idea may be strongly argued against arguing that it would then mean that all community work would then need to be paid, and in others it may be felt of as fair in respect of the work which the committee members do. Tha Phao Donpay Sing Village in Namtha Province, Lao PDR (where the community have paid for household connections from a gravity supply under an ADRA project), the committee is paid a small sum for their work (20% of the collected money).

124 / In Tha Phao Donpay Sing Village in Namtha Province, Lao PDR the community members have paid for household connections from a gravity supply under an ADRA project. The community requested household connections after ADRA installed the community stand-posts from a gravity supply. Households paid for their own connection and pay for their monthly water bill based on metered readings. Communities in Colombia supported by ACH have also made their own household connections after the project was completed.

CONSIDERATIONS	MORE INFORMATION
• A minimum of 5 people from each community should be trained in the maintenance, so that if one trained person leaves the village, another passes away and another is travelling, there will still be someone who can undertake maintenance[125]. • Train the village level mechanics over a number of days – including theory and practical sessions. Where possible include the village level mechanics in the installation of more than one full handpump or facility (including their own). Provide back up support. • Ensure that village mechanics and the wider community understand the need for preventative maintenance so that the community will not stop this being undertaken 'when there is nothing wrong with the pump'. Being transparent about this from the beginning will help to ensure that it is an accepted procedure[126]. In the agency could also be present during the first time the village pump mechanics undertake preventative maintenance (if felt appropriate). • Link up village pump mechanics into networks so that they can contact each other if there are problems they cannot solve[127]. • Identify particularly active pump mechanics who have proven their ability to mend pumps and identify them as area mechanics with communities, provide them with extra training and equipment and spares with the aim that communities can contact them when they have problems they cannot solve on their own and they can also buy spare parts from them[128]. • Where there are groups of water facilities, such as boreholes, which need particular technical skills for maintenance, cluster the water points and jointly pay for a technician to maintain them[129].	

125 / The ACF Liberia team train 5 people in handpump maintenance per village, three become the main maintenance volunteers (pump maintenance technicians) and two become the supporting ones.
126 / The ACF-IN Liberia programme has improved in this area over time. Initially communities were reluctant to allow the village pump mechanics to take apart the pump when it was still working, but during recent trainings more work has been done on explaining the essential need for preventative maintenance and the village pump mechanics have now started undertaking this work at regular intervals.
127 / This model is being considered by the ACF Bong programme in Liberia.
128 / This model was developed for use in the ACF Cambodia Mondolkuri programme.
129 / Recommendation of the MoW&I in the Northern Water Service Board, Kenya

B.2.2.5 Monitoring, evaluation & learning

CONSIDERATIONS		MORE INFORMATION
Indicators	• Identify indicators of success with both women and men (from different social groupings) at the beginning of the project – what do the community think of which will indicate success of the project? • See below the table more information and examples of possible indicators.	Section B.1.3.2
Monitoring	• Monitoring should be an on-going systematic review of the situation and ideally involving (ideally lead by) local level intermediate level actors. This can be a way to engage them in the follow up activities to encourage their involvement over the longer term. Monitoring can be incorporated into the back-stopping process which is part of the project design and follow up. • Undertake regular O&M audits and follow up as a process to provide follow up and support to the communities after the end of the project.	Section B.1.4.2 B.2.1.3 B.2.2.1
Evaluation	• Repeat the expanded sustainability snapshot as a monitoring or evaluation tool to see which the main risk areas for sustainability are and how the programme has been responding to them. • Evaluate not only the current project but include an evaluation of a selection of the previous projects and the impact of the follow up work on their sustainability – undertake this on a regular (annual basis) and feed back into new projects.	Section B.2.1.2 B.2.1.1
Learning	• Share learning with others through documentation of the learning and circulating within or through conferences or published documents such as the gravity flow systems (GFS) papers published by the ACF Lao PDR programme. This can help to standardise approaches which in turn can have an impact on longer term sustainability. • Propose and contribute to discussion subjects at sector coordination or cluster meetings relating to sustainability and solutions for key challenges in the project area.	Section B.2.1.2 B.2.1.1

Examples of indicators [130]

The programme should select a few key indicators which are relevant, sensitive, simple and feasible for a particular programme. Some of the indicators below are qualitative and some quantitative. The qualitative indicators could be marked against a scale of 1 or 5 to show their level of compliance, rather than simply yes / no answers.

Proxy indicators for sustainability (to estimate the likelihood of sustainability in current projects)

- **a.** Communities have a clear methodology for management of the facility.
- **b.** Communities have a clear method for collecting adequate funds for O&M.
- **c.** Communities have a clear method of auditing the funds for O&M which is transparent and a large part of the community is aware of.
- **d.** The community committee or management system has been approved by the community and is supported by the community leadership.
- **e.** The number of people trained for operation and maintenance in management and hygiene promotion.
- **f.** There is evidence that the community is able to solve problems relating to disagreements within the community.
- **g.** Women and men are both on the committee with a minimum of 30% women and the women are able to express their views and are listened to.
- **h.** The community express a strong sense of ownership over a facility.
- **i.** Technologies are selected which are locally known and are VLOM.
- **j.** Community members are able to operate and undertake basic maintenance on the technology and there is someone they can call on for assistance with major repairs or rehabilitation.
- **k.** Spares for the technology are available locally and at an affordable cost.
- **l.** Community has a plan and access to funds for replacement of the technology when it is full or needs replacing.
- **m.** Sector policies are clear and the management model is in line with sector policy.
- **n.** Intermediate level actors able to provide occasional back up support & communities know where to go to ask for support.
- **o.** The project is able to minimise impacts from natural disasters, conflicts or other risks.

130 / This table has been developed from:

- Brikké, F (2000) 'Operation and Maintenance of Rural Water Supply and Sanitation Systems, A training package for managers and planners', IRC International Water & Sanitation Centre, WHO, Water Supply & Collaborative Council, Operation & Maintenance Network
- A range of other sources and general good practice.

Indicators for evaluating sustainability of past projects

Examples – efficiency:

a) % of taps water points functioning
b) Number of hours system is functioning per day (as a % of those planned by the community)
c) Water supply is used throughout the seasons.
d) Number of days of downtime when the system is not functioning (days per year)
e) Delay between damage and repair
f) % of latrines visited which are in good condition and hygienic.
g) % of people visited who have and are using their household dish racks / waste pits.
h) % of people visited who have covered, separate drinking water containers.

Examples - community organisation / management & participation of the community:

a) Frequency of meetings
b) Attendance at meetings by men / women (%)
c) Numbers of decisions made in the General Assembly.
d) Number of women as part of the committee (% of membership)
e) Number of women and men in key positions – Chair, Treasurer, Secretary etc
f) Examples of where women have influenced decisions on the committee.
g) Records kept of meetings – issues discussed and decisions made.
h) Number of trained members of committees still active (as a % of original number)
i) Examples of the community having solved disputes / conflicts.
j) Examples of where the community has positively asked for help from outside intermediate-level actors when they could not solve a problem.

Costs recovered:

a) % of users not paying
b) Calculation of water produced / water effectively paid for (%)
c) Expenditure / income
d) % of users not paying.
e) Costs / month versus the effective monthly tariff
f) Balance in bank account

Technical capacity, availability of spares:

a) Number of preventative maintenance activities which have been undertaken per year.
b) Community level pump mechanics or technicians have been able to repair the facility when broken.
c) Number of spare parts changed in one year.
d) Number of spare parts purchased from outside the village per year.

Replicability of schemes:

a) Number of pit latrines which have been emptied or replaced in a year.
b) Examples of replication of technologies – for example construction of additional shallow wells.
c) Examples of upgrading or self improvement of facilities.

B.2.3 DISASTER RISK REDUCTION

This section highlights DRR actions which can have a positive impact on sustainability of water, sanitation or maintaining good hygiene practice[131] in disaster vulnerable areas.

B.2.3.1 Mitigation

	METHODS TO INCREASED SUSTAINABILITY IN DISASTER RISK AREAS
Designing in areas at risk from flooding	• Raise up either wells or boreholes – access via a raised platform and steps – constructed above the usual flood water level. • Ensure strong construction using adequate cement and good seals to prevent water inundation – flood proofing[132]. • Construction of improved foundations, water retention structures, riprap to riverbanks, stronger concrete and masonry constructions in spring protections, infiltration galleries, intake structures etc. • Construct facilities on higher ground – siting water pipes, water points / sources, treatment plants, pumping stations, storage reservoirs etc in areas least prone to floods and away from trees and utility poles. • Provision of stand-by generators for pumping at source or in treatment plants etc. • Creation of overflow systems to avoid over-topping of dams and water retention structures. • Protection of water or sanitation facilities by the construction of embankments. • Installation of stronger and better-anchored and entrenched water pipes with flexible joints and stronger or better anchored sewage pipes and drainage pipes. • Improve access roads – make the construction more resilient and raise up the surface (where appropriate & possible). • Include weak points in pipelines or structures, so that the pipeline or structure can fail at a pre-determined point which can be easily repaired. • Support families to be able to raise up their houses above the usual level of the flood water. • Construction of shelves for valuable family property. • Rising up water storage jars out of the reach of flood water. • Constructing sealed and raised latrines [however – emptying and maintenance are key for effective use and continued benefit].
Earthquake resistant design	The following guidance has been provided in relation to buildings for settlements[133], but also has some relevance to the siting of water supplies and associated buildings: • In earthquake zones construction should be avoided on alluvial plains, unstable slopes, steep slopes, unstable soils, or reclaimed areas where the

131 / A number of the recommendations in this table came from ACH documents and from O'Brien, N (2001) 'Risk Mitigation and Disaster Management Among Rural Communities in Cambodia', CARE; ECHO DG (2005) 'Model Guidelines for Mainstreaming Water & Sanitation in Emergencies, Protracted Crises, LRRD and Disaster Preparedness Operations' and Corsellis, T & Vitale, A (2005) 'Transitional Settlement, Displaced Populations', University of Cambridge Shelter Project, OXFAM. Other references have been specified.

132 / ERM (2005) 'Natural Disaster & Disaster Risk Reduction Measures, A Desk Review of Costs & Benefits', Draft Final Report, 8 December 2005

133 / Corsellis, T & Vitale, A (2005) 'Transitional Settlement, Displaced Populations', University of Cambridge Shelter Project, OXFAM

ground has not been properly engineered.
- It is important to be aware of areas liable to landslide, rock slide, avalanche, and liquefaction.
- Buildings should be spaced so that if one collapses it will not destroy another and this will also help to prevent the spread of post-earthquake fires.

Techniques which can help buildings withstand earthquakes better, or increase the chance of people being able to get out of the building before it collapses (relevant to buildings for water & sanitation infrastructure and some design features may also be relevant for water facility structures):
- Stones should be used to tie walls together in rubble masonry construction.
- The building should be strongly secured to its foundation.
- For masonry, the building should be reinforced with timber or concrete belts at different heights. Lintel levels are the best location for these.
- If the floor and roof are constructed of timber, it is good to provide similar reinforcing bands at floor level and eaves level as well.
- Column lengths should be similar, so do not mix tall and short columns.
- Do not use a-symmetrical designs, such as ones that incorporate wings or T-shaped, L-shaped, or H-shaped buildings.
- Buildings whose length is less than three times their width are preferable, to keep the plan as square as possible.
- Avoid large and numerous openings; do not design openings near to wall junctions.
- Long walls should be buttressed at intervals.
- Strong connections should be made where walls meet, especially at corners: for example, by using vertical and horizontal reinforcement.
- Walls should be strongly connected to the foundation.
- Floor components should be strongly tied to each other; floor joists should be strongly secured to walls.
- Roof components should be strongly tied to each other.
- Heavy roof tiles may be dislodged and may hurt or kill people even if the building survives, so tiles should be avoided, or strongly tied to roof purlins.
- Roof rafters should be strongly secured to the walls.
- Storey heights should be similar to each other.
- Tall chimneys should always be secured to the structure.
- It is recommended that if the buildings are built with a number of units, the units connected through non-structural sections (i.e. sections which easily break), and the buildings are structurally built of separate elements.

Other recommendations (ECHO Model Guidelines):
- Careful siting of water intakes and abstraction points away from areas not prone to landslide or secondary damage following an earthquake.
- Use flexible joints for spring protection and infiltration galleries.
- Site storage reservoirs as low as possible.
- Making river intakes and dams earthquake proof (include: sheet piling, extended wing walls, flexible joints; for dams additionally include: sloping banks below and above water line, parapet walls).
- Improvement of boreholes: increase strength of casing and make a wider than usual gravel pack with slightly larger diameter gravel.
- Provision of stand-by generators at sources, treatment plants etc.

	• Ensuring foundations of sanitation structures are well tied-together, and that walls are securely fixed to the foundations and roof (where appropriate), using adequate braces. Study buildings that have survived previous earthquakes. • Make use of good building materials and good workmanship during the construction of sanitation infrastructure.
Designing in areas at risk from volcanoes	The following guidance has been provided in relation to settlements134, but also has some relevance to the siting of water supplies and associated buildings: • Volcanoes are unpredictable and complex, so wherever possible it is best to avoid putting settlements within the zone of risk, which will vary with the volcano. If the volcano erupts explosively, a danger zone should probably exceed 100km, but if lava flow is typical of the volcanoes' pattern of eruption then 5km away from the edge of the largest lava field is an approximate guide. • Volcanic ash has short and long term health effects and also infiltrates machinery and vehicles, ruining engines and electrics, so avoiding areas of continual or dense ash is essential. • General considerations for buildings are to have any large openings or doorways on the side away from the volcano to provide some protection and leave an escape route open. Objects such as timber planks and sheets of metal should not be left lying around in case they become missiles. Additional guidance from ECHO Model Guidelines: • Construct buildings to be able to withstand / carry ash loads. • Use appropriate pipe materials and flexible joints. Anti-rust measures may be required to prevent water pollution and protect pipes from the effects of volcanic ash. • Provision of adequate water storage and water-piping capacity for fire-fighting.
Designing in areas at risk from landslides	The following guidance has been provided in relation to settlements[135], but also has some relevance to the siting of water supplies and associated buildings: • Landslides tend to occur on steep slopes, or where the land is undercut by water: for example at river bends, narrow beaches, or coastal cliffs and areas recently affected by wildfires. Deforestation and overgrazing can reduce the stability of slopes and increase the risk of landslides and heavy rainfall often triggers a slide. • The best protection against landslides is to be careful in the choice of siting. • Seek local information and look out for clues from the environment about landslides in the past – recently fallen rocks, vegetation free areas running down a slope, piles of debris, scour marks from past landslides. • Properly draining the settlement can prevent landslides – saturated soil should be drained and surface run-off should not be allowed to enter the slide-prone area. • Protect slopes by planting vegetation.

	METHODS TO INCREASED SUSTAINABILITY IN DISASTER RISK AREAS
Designing in areas at risk of storms or hurricanes	The following guidance has been provided in relation to settlements[136], but also has some relevance to the siting of water supplies and associated buildings: • The orientation, siting and layout of settlements and local topography influence the ways in which they are affected by wind, precipitation, sand, dust, and other storm phenomena. • Gaps in mountains can funnel wind, complex topography can cause complex wind patterns and peaks are a major barrier to moisture holding air. Trees can act as a buffer against the wind but in extreme circumstances can be uprooted and blown over and striking buildings as missiles. • A building can be made more resistant to the wind by designing it to resist the wind as an entire structure, rather than an assembly of bits and pieces, and the layout in relation to the wind can dissipate the wind force (for example putting gaps between asymmetrical building sections). A well connected hip roof provides the best resistance to the wind. Recommendations from ECHO Model Guidelines: • Keeping water source sites clear of loose debris. • Reinforcement of above ground infrastructures (especially where pipelines cross rivers, elevated and ground water-level water tanks etc). • Covering collection boxes and (channels of) spring protections with protective slabs [note covers must be tied in to the main structure with reinforcement]. • Entrenching of mains pipelines, reduction of the number of river crossings, fixing mains at downstream side of bridges, promoting vegetation for slope stabilisation. • For river intakes, install stop-locks upstream and install sedimentation tanks several feet upstream of weirs. • Removal of trees from areas directly surrounding water infrastructure. • Reduction of the height of WASH structures wherever possible. If high water tanks cannot be avoided, fill them with water and close valves (install valves is necessary) during periods of high winds.
Mitigation for drought	• Increasing the number and size of appropriate dryland water sources (ponds, pans, birkads, hafirs, rock catchments etc) for communities to phase their use through the year and supporting effective management. • Increasing the size of storage in the home and at institutions, for example rainwater harvesting from roofs and increasing storage volumes. • Supporting the capacity of the government or private sector to be able to provide (for payment) a tankering scheme to fill underground tanks during the driest parts of the year. • Consider the stages and appropriate activities related to Drought Cycle Management – particularly improving the communities coping capacities so that they are able to sustain their systems during times of hardship.

134 / Corsellis, T & Vitale, A (2005) 'Transitional Settlement, Displaced Populations', University of Cambridge Shelter Project, OXFAM
135 / Corsellis, T & Vitale, A (2005) 'Transitional Settlement, Displaced Populations', University of Cambridge Shelter Project, OXFAM
136 / Corsellis, T & Vitale, A (2005) 'Transitional Settlement, Displaced Populations', University of Cambridge Shelter Project, OXFAM

B.2.3.2 Preparedness

Preparedness for disasters can have some impacts on sustainability, but less than mitigation activities. Accurate flood information mapping can help to appropriately target mitigation interventions. Training on the cleaning out of wells and chlorination, by the local communities and intermediate actors can also help to ensure that water points are not abandoned after flood events.

B.2.3.3 Prevention

	METHODS
Environmental awareness raising & reforestation programmes	• 'Large scale deforestation and the removal of vegetation which lessens the capacity of the soil for infiltration and retention of water, thereby increasing the amount and pace of run-off' – undertake environmental awareness raising and reforestation programmes. • Bamboo planting. • Protection of river banks [this can be technically difficult and expensive, depending on the size of the river and force of water].

CONCLUSIONS AND KEY RECOMMENDATIONS

CONCLUSIONS

1. There is a need to consider sustainability in vulnerable contexts because:
   - Many humanitarian and transitional contexts are not simple acute emergency contexts with large scale displacement and large scale threat to life, but most are complex, sometimes chronic, often fluctuating, and often affect people in their home areas.
   - Helping affected people get the most benefit from funding given on their behalf through helping communities be able to sustain their facilities over the longer term, is contributing to accountability to the beneficiaries.
   - Many agencies, including ACF-IN, often work in the same areas of a country for a long period of time, not limited by the short time frames of donor humanitarian funding.
   - Not considering sustainability in programme design or considering the longer term impact of approaches used in transitional contexts can have wider longer term negative impacts for effective development in later stages.
   - The MDGs will never be met if money continues to be spent on infrastructure and projects and within a short period the benefit is lost through a lack of sustainability.

2. Putting attention on sustainability in vulnerable contexts does not mean that the first priority should not be on saving life in acute emergencies. This should continue to be the first priority of emergency funding, but sustainability should be a core consideration in transitional and vulnerable contexts.

3. When the usual challenges to sustainability are compounded with additional challenges from vulnerable contexts the opportunities for failure increase. Examples of additional challenges from vulnerable contexts may include the limited access for trained staff to insecure areas, the death or displacement of trained community members, displacement of whole or part communities, increasing numbers of populations using specific services, changes in community solidarity, stolen equipment, destruction and limited capacity of government.

4. ACF-IN already commits within its Water & Environmental Sanitation Policy to supporting communities to have sustainable interventions and the programmes visited as part of the research already make efforts towards this goal through activities such as the training of mechanics, water and sanitation committees, selecting simple technologies and in some cases providing back up support after the time the initial implementation ended. However more attention is still needed to the contributions which ACF-IN can make to sustainability in the vulnerable contexts in which it works.

5. The length of staff employment contracts, limited opportunities for local staff career progression, a lack of feeling of being valued and low salary levels versus other organisations undertaking the same work, can all impact on staff retention, leading to a high turnover of staff. This has negative implications for programmes and partnerships and in undertaking well targeted interventions which have a higher chance at longer term sustainability.

6. Capitalisation of learning within ACF-IN is varied, with some excellent examples of documentation and handover, and others of limitations on information retrieval of information from previous projects.

7. A repeated message from documented researches is the need to pay more attention to engaging and capacity building the local intermediate level actors to be able to provide back up support over the longer term.

8. It is noted in a number of documented researches that a large number of projects (approximately 80% noted in a couple) which become unsustainable are not because of technical issues but because of issues such as management, social relationships and community dynamics.

9. There are some very good materials already prepared on sustainability and operation and maintenance, a number of which are highlighted in the Bibliography section, and which agencies could make more use of. In particular for training, the following is particularly good, with contributions from a wide range of people with significant experience in O&M and community management, and should be utilized for training of staff and partners. Additional material related to vulnerable contexts can be added:
   - Brikké, F (2000) 'Operation and Maintenance of Rural Water Supply and Sanitation Systems, A training package for managers and planners', IRC International Water & Sanitation Centre, WHO, Water Supply & Collaborative Council, Operation & Maintenance Network

10. Another example of a particularly useful paper is:
    - Soley, F & Thogersen, J (2002) O&M audit, A practical tool for sustainability, 'Sustainable Environmental Sanitation & Water Services, 28th WEDC Conference', Kolkata (Calcutta), India, 2002

11. There is still a challenge in determining a transition between the following in emergency and development approaches:
    - Needs vs demand approach
    - Free provision vs contributing for facilities (giving aid vs building self-reliance)
    - Paid work as income generation vs voluntary work (to encourage self-reliance)

12. There is a role for INGOs in contributing to the capacity building of government / local authority staff, particularly in vulnerable contexts – to consolidate the efforts of the larger donors – by facilitating on the ground practical experience and problem solving. But note that this is dependent on the NGOs having the capacity themselves.

RECOMMENDATIONS – STRATEGIC AND INSTITUTIONAL

1. Be honest with donors, other sector actors and communities, about the challenges which are generally faced in trying to support sustainable projects and the additional challenges which are faced from vulnerable contexts.

2. The transition from emergency to increased stability and ideally development needs an increasing alignment with government policies and structures. Whilst governments face many challenges to undertaking their responsibilities, effort should still be made to make the linkages and align with national institutions policies wherever possible.

3. INGOs should advocate and lobby with the larger donors to pay more attention to the transitional context and to give attention to capacity building intermediate level actors for longer term back up to communities for operation and maintenance, supporting spare parts chains, and other sector wide issues.

4. ACF-IN should be considering working in partnership as standard procedure, helping to build the capacity of local institutions whilst at the same time benefiting from their local knowledge, links and experiences, and hopefully contributing the leaving behind stronger institutions when ACF-IN leaves vulnerable contexts. Partnerships should be for a number of years and focus on institution building as well as programme support.

5. Country programmes should make sure that they develop disengagement or exit strategies, which can also be considered as 'sustainability strategies' for – (i) individual projects; (ii) programme areas; and for (iii) the Country Mission. The earlier these are determined, the more chance there will be to incorporate them into the programme strategies and the Mission's longer term aims and hence more chance for success.

6. To continue working towards recruiting staff and volunteers for longer periods and re-consider the 1 year maximum contract length, currently the restriction for the ACF-Paris contracts.

7. Pay more attention to showing that staff are valued and continue the process of putting more resources and support to committed and capable staff (particularly national staff) to build their capacities and confidence to take on senior posts.

8. Reinforce local institutions and structures and contribute to policies and development plans.

9. Allocate a % of untied funding to pay for regular (annual) monitoring of previous projects for a lesson learning exercise to feed into current programmes, if funding is not available from donors.

10. Develop standard minimum evaluation requirements in relation to sustainability for external evaluations. Currently the level of understanding or discussion on the factors affecting sustainability shown in a range of external evaluation reports varies. Ensure that the evaluators are given a realistic number of days for the evaluations to be able to pay more than superficial attention to sustainability issues.

RECOMMENDATIONS - PROGRAMME & PROJECT DESIGN

1. Spend more time undertaking analysis of the risk factors for sustainability in each context and in following up and learning in relation to the successes and challenges faced.

2. Ensure that new projects include a budget for follow up back-stopping support to previous projects.

3. Make more effort to engage local intermediate level actors in the projects to increase their attention to sustainability and ensure that communities know where they can go for help if they face a problem they are unable to solve.

4. Remain working in the same areas for higher coverage, than moving areas when there is still need, as this has multiple benefits relating to building links with intermediate level actors, contributing to capacity building of the same, providing opportunities for effective spare parts networks, and communities to share experiences with each other.

5. Be clear as programme teams on the implications of each type of project supported – management, financial, technical, renewal at the end of the design life, advantages and disadvantages of each option, before working with communities, so that this information is readily available to communities when initiating projects[137].

6. Offer a number of technical options and levels of service and provide the communities with enough information to make an informed choice – use the water ladder and the sanitation ladder approaches.

137 / Heyrard, J & Blanc, D (2007) 'The Kailahun Water Points Assessment; Diagnosis of a sustainable failure, Bombali District, Sierra Leone', ACF, June 2007

7. Consider different models for management and allow communities a degree of choice depending on which they feel will work best in their communities. Do not take the community voluntary committee management model as the default model assumed to be the correct one, or communities to collect monthly payments, but consider them as options.

8. Financial mismanagement is one of the key risks to community solidarity with water and sanitation committees and so particular attention should be made to ensure that there is a good system of regulation or clear audit processes in place which the whole community is aware of.

9. More attention to be given to understanding community dynamics and gender and equity related issues, making sure that the more marginalized members of the communities needs are heard and that increasing levels of support are given to encourage both women and men to share management, technical and hygiene promotion responsibilities.

10. Use village-to-village visits to give communities the opportunity to learn from each other on both successful and problematic management of WASH.

11. More attention to be given to opportunities for income generation within communities to help sustain interest of volunteers and pay for maintenance.

RECOMMENDATIONS TO DONORS

1. Support longer project durations in transitional or vulnerable contexts[138], including for hygiene and sanitation promotion and change procedures to reduce the delays in awarding new projects which leads to negative impacts for implementation, including less time to work with communities on the elements which affect longer term sustainability.

2. Discuss as a topic at donor harmonisation meetings – practical ways of supporting LRRD, including funding follow up of previous projects over a number of subsequent projects.

3. Support national spare parts networks as a matter of urgency in countries where handpumps are widely used and only fund the sectors standardised pump(s) when organisations who are being funded are importing pumps, alongside development and trial of local models which have easier maintenance.

4. Include funds for capacity building for staff in transitional contexts.

5. Less emphasis on the number of people supported for small sums of money, but more on the quality of work and longer term support for a multiplication of benefits, particularly in non-acute scenarios. In non acute situations, is it really better to limit the spending per head and have projects fail soon after completion? Who does this really benefit?

6. Be more open to different approaches including the private sector and self supply, particularly in urban and particular problem areas such as dryland contexts where community management is more challenging.

7. Encourage organisations to allocate a % of the total programme budget, staffing and overhead

138 / More intermediary funding like the 3 year EC LRRD projects and the funding from the Water Facility, which can bridge the gap between the ECHO funded projects and those funded by the multi-lateral or bi-lateral donors.

costs to providing occasional ongoing support to previous projects (which can be funded by various donors and not necessarily the donor funding the follow up projects).

8. Fund requests from INGOs and other implementing partners to undertake regular (annual) monitoring of previous projects for a lesson learning exercise to feed into current programmes.

9. Support thematic technical workshops and peer monitoring[139] to help assist harmonization of approaches / peer learning where sector coordination is weak or there is an absence of guidelines in vulnerable contexts.

10. Consider regular sector wide evaluations of a selection of projects in relation to longer term impacts of short term emergency funding.

11. Where UNICEF does not have the capacity to support the Government in its WASH sector coordination role or capacity building for sector leadership during LRRD phases, consider funding a specific post with this specific term of reference (and not watered down by having numerous programme related tasks)[140].

12. There is a need to help break down 'the glass wall' between the development and emergency sector actors[141] through inter-disciplinary dialogue and learning opportunities.

13. Keep the Water Facility as a positive contribution to the EU's ability to effectively respond to LRRD contexts.

14. Not insisting on putting labels on everything would contribute to encouraging standardisation of hygiene promotion materials and more ownership by communities (rather than seeing the facilities as belonging to the implementing agency or donors).

139 / Example provided of ECHO's activities in Liberia during the post-conflict phase and efforts to support standardisation of sector approaches / development of good practice guidelines.
140 / UNICEF is the sector lead in the WASH sector and has a role supporting the Government capacity building and coordinating the sector, whether through the Cluster Leadership Approach or through general sector coordination. Often UNICEF staff have multiple responsibilities including on programme support, and hence do not always have the time or capacity to support effectively on sector wide issues. The change in approaches during the LRRD phases needs particular attention and hence having dedicated support and attention for such issues would be a positive contribution to the LRRD process and linkages.
141 / As described by the representative of a multi-laterial donor.

APPENDIX

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APPENDIX

Appendix I. Expanded sustainability snapshot tool

ACF-IN VULNERABLE CONTEXT 'SUSTAINABILITY SNAPSHOT' FOR COMMUNITY PROJECTS

This tool aims to help project staff and partners to analyse the factors which affect sustainability of WASH projects and facilities. It has been developed from the sustainability snapshot as designed by Steve Sugden and team of WaterAid in Malawi[142], but expanded to include a range of factors identified as influencing sustainability as identified by Schouten and Moriarty, in their research 'from system to service'[143] which relates to community managed water systems in six countries. Additional factors related to vulnerable contexts have also been added during the field work.

The ACF-IN 'Water & Environmental Sanitation Policy, 2006' highlights the ACF-IN's commitment to encouraging sustainability in the WASH projects which it supports, particularly in the many post-acute situations but which are still vulnerable contexts, in which it often works. Refer to the latest version of the policy for further details. The tool identifies a range of factors which affect sustainability, many of which also are components of other elements of good practice of projects and programmes. For example, the standardisation of sector approaches and the use of these standards in the programme, helps for example to improve the coherence of the programme with the rest of the sector; responding to gender and social divisions within the community is part of a gender responsive approach, which is a cross-cutting issue and helps to ensure an effective engagement of women as well as men; and the selection of simple and locally produced or maintainable technologies, both aids sustainability and increases the relevance and appropriateness of the intervention to the particular context. Developing projects which will ultimately be sustainable will in most cases also increase the effectiveness, relevance and longer term impact of the project and programme.

How to use the sustainability snapshot

The sustainability snapshot uses a scoring system against a range of factors which are known to influence sustainability.

The final scores on their own are not important – the important aspect of the scoring is the process of thinking about how the factor should be scored. Whilst the scores for different projects or situations can be compared (for example urban context projects versus rural context projects), this is not the main purpose of the scoring.

Step 1	Go through each factor in turn and score from 5 (very good) to 1 (very poor) versus the scoring criteria. For most factors there is more than one criterion – in these cases score for each criterion and then make a judgement at a fair overall score which should be entered into the final column.
Step 2	Add up the final column to produce a final score (in the two sections).
Step 3	Go back through the table and highlight all scores of 1 or 2 in one colour – these are the high risk factors which may cause the project / facility to become unsustainable.
Step 4	Go back through the table and highlight all scores of 3 in another colour – these are also risk factors for sustainability.
Step 5	Compare your scoring for a given context with the scoring of your team members for each factor and ask - have you identified the same high risk factors?: - If they are different – discuss why they are different and agree on a final score. - If they are the same, then keep this score as it is
Step 6	For all of the high risk factors which have the scores of 1 & 2 – discuss each in turn and how the project can work to overcome the particular risk? Then do the same for factors with scores of 3.

142 / Sugden, S (2001) Assessing Sustainability – the Sustainability Snapshot, '27th WEDC Conference, People and Systems for Water, Sanitation & Health', Lusaka, Zambia, 2001

143 / Schouten, T & Moriarty, P (2003) 'Community Water, Community Management, From systems to service in rural areas', ITDG Publishing

Note – the tool has not been designed to be fully suitable for hygiene promotion and good practice, although hygiene promotion has been considered within the tool as a part of water, hygiene and sanitation.
'MC/P' is being used as short hand for = management committee (such as a Water & Sanitation Committee, WASH committee, Water Committee, Sanitation Committee), group (community group such as a woman's group or elderly persons group), organisation (CBO or NGO) or private individual or household (who are to have the task of managing the project / facility over the longer term)

NO	SUSTAINABILITY FACTOR	SCORING CRITERIA **(measuring the factor versus its likely influence on sustainability in the particular context)** 5 = Very good / statement is fully true; 4 = Good; 3 = Moderately good / statement is partly true; 2 = Poor; 1 = Very poor / statement is not true at all (Examples of scoring have been given where there is a need for additional clarity)		INDIVIDUAL SCORE FOR EACH SUB-CRITERIA	OVERALL SCORE FOR THE CRITERIA
INTERNAL TO THE COMMUNITY AND INFLUENCED BY THE PROJECT PROCESS AND DESIGN					
1	**Quality of leadership in the community**	**A**	There is strong community leadership (Chief, Village Head etc) & they are interested and engaged in the project.		
		B	There is strong leadership in the MC/P managing the project / facility.		
		C	The community fully trust the leadership of the MC/P.		
2	**Gender divisions, inequity and social cohesion**	**A**	Women are actively involved in community activities as well as men (outside of the project).		
		B	Women are actively involved as well as men in the project and women also hold leadership positions.		
		C	There are clear mechanisms for people from minority groups, the most vulnerable and the poorest, to express their problems and views and be involved in the project.		
3	**Management capacities, baseline skills, education and capacities and an effective management system has been developed**	**A**	The baseline skills of the community (literacy, education, technical skills) are high.		
		B	The existing management capacities of the community are high (shown by previous examples of projects managed in the community).		
		C	The existing management capacities of the MC / P who are to manage the project are high.		
		D	A clear management system has been developed for the facility.		
		E	Comprehensive training has been given to the MC / P on leadership, collection of funds, financial management, gender, conflict reso-		

		lution, operation and maintenance, how to obtain spares and their level of confidence in these areas and understanding is high.		
		F Comprehensive training has been given to the MC / P on technical operation & maintenance (to a sufficient number of people – 5 trainees per community minimum is needed for a score of 5) and their level of confidence and understanding in these areas is high.		
		G Comprehensive training has been given to the MC / P on hygiene promotion & good hygiene practice and their level of confidence and understanding on these subjects is high.		
4	**Existence and enforcement of rules**	**A** There is a clear and transparent agreement in the community on the rules around water use / latrine use.		
		B There is a clear and transparent agreement in the community on the rules of how the on-going operation and maintenance will be paid for.		
		C There is a known process of enforcement when people break the rules for use or payment.		
		D The process of enforcement is enforced by the MC / P and with the support of the community leaders.		
5	**Community sense of ownership & legal ownership**	**Note:** For this section there are three scoring criteria and each criterion has been given a scoring guide with a description for the scores from 5 to 1. See below.		
		A The facility (water supply system or sanitation facility or treatment system) is legally owned by the community or householder (as per the Government laws). **Scoring guide:** (5) The facility is legally owned by the community or the householder (as per Govt laws). (4) The facility is not legally owned by the community or household, but the community have the legal right to use the facility (as per Govt law). (3) The facility is not legally owned but there is a 'sense of ownership' in the community of the facility. (1) The facility is not legally owned and there is no 'sense of ownership' of the facility.		
		B The land on which the facility is constructed and the land which is needed to ensure water resource availability is available over the longer term (noted below as the 'facility land', for the benefit of the users of the facility and they have control over it.		

		Scoring guide: (5) The 'facility land' is legally owned by the community, the government (and allocated for the effective use of the facility), or the householder (as per Govt laws). (4) The 'facility land' is not legally owned by the community or household, but the community have the legal right to use the facility (as per Govt law) and this is documented in writing. (2) The 'facility land' is not legally owned by the community, household or the government, but there is a verbal agreement ('oral contract') on the long term use of the land with the landowner, for the community or household use of the facility, which was witnessed in a public meeting with government officials, community leaders and / or elders being present. (1) The 'facility is not legally owned and there is no open agreement with the land owner, for the long term use by the community or household.		
		C The MC / P managing the facility (water supply system or sanitation facility or treatment system) is formerly registered as an organisation (as per Govt law). **Scoring guide:** (5) The MC / P managing the facility is formerly registered as an organisation (as per Govt law). (3) The MC / P managing the facility is not formerly registered as an organisation but within the sector the type of committee or organisation is understood to have rights to manage a facility or project and this is understood / agreed in the community. (1) The organisation managing the facility is not formerly registered and their responsibilities for managing the facility are not understood by the community.		
6	**Community commitment to the project willingness & ability to pay & contribution to the capital costs of the project**	**A** The communities level of commitment to the project is high (a score of 5 would be where they have previously tried to implement the project themselves).		
		B The community members' willingness to pay for a contribution to the capital cost of the project is high.		
		C The community members' ability to pay for a contribution to the capital cost of the project is high.		

7	**Existence of an effective management system for financing O&M**	**A** There is a clear and achievable system for managing the finances for O&M.		
		B The community are fully willing to pay a regular sum – either through paying for the use of the facility (per volume of water) or through a regular contribution – for the on-going management and operation and maintenance of the facility.		
		C The community is able to pay a regular sum – either through paying for the use of the facility (per volume of water) or through a regular contribution – for the on-going management and operation and maintenance of the facility.		
		D The community have agreed a strategy to allow the poorest or most vulnerable to pay a reduced contribution or to be excused from a contribution.		
		E The community has devised an income generating project to sustain the facilities or project over the longer term (which is not linked to income generation from payment for water as noted in B & C above).		
8	**An effective mechanism for collecting and managing the funds for recurrent costs**	**A** The community has established a clear and transparent system of collecting the money above and managing it, recording the funds collected and spent in an effective manner.		
		B The financial situation of how much money has been raised and spent and the resulting balance are regularly shared with the wider community. The records are available for anyone to view on request.		
		C There are clear and effective mechanisms for problem solving when there are problems with the management of the money.		
9	**The community has the willingness & ability to raise money for major rehabilitation or replacement**	**A** The community is willing (and understands the need for) collecting a regular sum for major rehabilitation or replacement of the facility or pump at the end of its working design life or to pay for the replacement at the time.		
		B The community is able to raise the money for major rehabilitation or replacement.		

10	**Appropriate service level & technology**	**A** The community members are very happy with the level of service of the facility or project.		
		B The technology is suited to the baseline skills of the community – it is possible to easily maintain the facility at community level (VLOM).		
		C The community is able to manage and maintain the facility.		
		D The community knows how to and is able to easily purchase the spares / consumables / or materials.		
11	**Systems appropriate to livelihoods**	**A** The facility is suitable for both domestic and livelihood use.		
		B There is enough water for all of the community who wish to, to use it for community use for livelihoods.		
12	**Environmental sustainability**	**A** The project does not have a negative impact on the environment over the short term.		
		B The project does not have a negative impact on the environment over the longer term.		
		TOTAL SCORE FOR FACTORS INTERNAL TO COMMUNITIES AND AFFECTED BY PROJECT DESIGN (max score = 205)		

NO	SUSTAINABILITY FACTOR	SCORING CRITERIA **(measuring the factor versus its likely influence on sustainability in the particular context)** 5 = Very good / statement is fully true; 4 = Good; 3 = Moderately good / statement is partly true; 2 = Poor; 1 = Very poor / statement is not true at all (Examples of scoring have been given where there is a need for additional clarity)	INDIVIDUAL SCORE FOR EACH SUB-CRITERIA	OVERALL SCORE FOR THE CRITERIA
EXTERNAL TO THE COMMUNITY				
13	**Legislation, policies & political support**	**A** Government legislation, policies and strategies (legal framework – including national laws, policies and strategies and local level authority level laws, policies and strategies) adequately cover the ownership and operation and maintenance of the water or sanitation facility.		
		B There is a clear Government structure (national, decentralised or local authority) able to provide back up support over the longer term in line with the Government's legal framework		
		C If the legal framework exists and there is a structure able to provide back up support, the Government also has the willingness and commitment to apply it in all contexts, including in areas where the poorest people live and in insecure or vulnerable contexts, or where population density is low.		
14	**Efficiency of intermediate level actors – Govt, NGOs, private sector**	**A** Government (central or decentralised Ministries or the Local Authorities) have a clear structure and identified responsibilities of its departments with respect to who is responsible to provide longer term back up support to communities.		
		B The Government department responsible for longer term back up support to communities has adequate staffing, finances and logistical support for this task.		
		C The communities know who its counterpart is for help with maintenance or repair, as per the countries legal framework, or who is available and has the capacity to help; if the framework is not strong or not applied (i.e. the link exists).		
		D There is an effective monitoring system for the coverage and on-going sustainability of facilities.		
		E Local NGOs are strong and capable to provide on-going back up support to communities in the management of their projects over the longer term.		

		F The private sector (which may be a large company or a small provider including individual trade persons) is present and has the capacity (and willingness) to provide back up support in the project area on request over the longer term.		
15	**Availability of donors or funding sources**	**A** External funding sources / broad resources are readily available in country for support for investment in major rehabilitation or replacement after the project has ended and after the end of the facilities design life.		
16	**Standardisation of approaches across the sector**	**A** The WASH sector has a standardisation of approaches and recommendations for sector technologies (such as handpumps), which are accepted and followed by most of the organisations implementing WASH projects in the country.		
17	**Availability of spares and materials**	**A** Spare parts and materials needed for O&M are readily available within a reasonable distance to the community, at a reasonable price and the supply chain is sustainable.		
		B The spares or materials can be reproduced by the community or reproduced locally out of locally available materials.		
		C The facility or technology which requires the spares or materials is produced locally.		
18	**Water resource availability (an external factor but also influenced by project design)**	**A** In high rainfall areas - the water resource (for the chosen designed project) is available across the seasons (where there are easily accessible alternative sources). For dryland areas – the water resource (for the chosen designed project) makes a big impact on the availability of water for at least part of the year.		
		B For high rainfall areas - The water resource (for the chosen designed project) is available even during drought years. For dryland areas - The water source (for the chosen designed project) is still available for part of the year during drought years.		
19	**Risks from natural disasters, conflicts & vulnerability**	**A** There are no risks from natural disasters or conflicts, or the negative effects of natural disasters or conflicts can be minimised through effective protection works, design features, or preparedness activities and training. **Scoring guide:** (5) There are no risks from conflicts or natural disasters.		

		(3) The risks from conflicts or natural disasters are present, but the project can continue to work effectively throughout the conflict, due to the simple design of the project, or training was provided to a wide range of people so that if people have to leave the area there are still others who can continue to operate and maintain the project, or the facility or system was designed in such a way as to minimise damage (for example water facilities on raised platforms in areas vulnerable to flooding). (1) The risks from conflicts or natural disasters are so high that it is unlikely that the project will be able to provide benefit for the community or household due to severe damage from the disaster or conflict event, leading to the facility or system becoming inoperable, or mass displacement leading to no-one remaining to use the facility or system.		
		TOTAL SCORE FOR FACTORS EXTERNAL TO COMMUNITIES (Max score = 85)		

Appendix 2. Spare parts networks

The following section highlights key points noted on spare parts supply from the multi year research by Harvey, P.A. and Reed, R.A. (2004) 'Rural Water Supply in Africa, Building Blocks for Handpump Sustainability', WEDC

- 'Hardly anywhere has satisfactory spare parts distribution been achieved (Baumann, 2000)'
- 'Where spares supply is linked to other private sector activities such as technical services for construction, operation and maintenance, and the provision of pumps and equipment, it is much more likely to be utilised'.
- 'Locally available technologies that avoid specialist spares, or alternative maintenance models to community management, can also make the supply chain goal much easier to achieve'.
- A constant and effective sustainable supply chain needs to be – available spare parts, accessible to customers, affordable parts, and appropriate content and specification. The supply must also be replicable.

APPROACHES TO SPARE PARTS SUPPLY

1. **Implementing agencies i.e. Government or NGOs** – Maintaining a stock of spare parts and provided to the users at a nominal price or free of charge. This can face challenges to sustainability when the implementing agency moves away or the government is unable to sustain the supplies.
2. **For the private sector to supply them** – Relying on a business approach where private sector actors have sufficient incentive to become involved and maintain their involvement.
   'Currently there are very few examples of sustainable private sector supply chains'. The reasons for this are:
   a. **Profit** – Selling spare parts is generally not a profitable business as the density of handpumps in rural areas is low and as most pumps are quite reliable the need for the spare parts is only occasional and the price of most consumable parts are quite low – for example the O ring for the Afridev may lead to less than 1 USD profit. Keeping spares tied up in capital which could otherwise be used for faster moving items.
   b. **Procurement** – The procurement of spare parts is often separated from the purchase of pumps which is much more profitable than the spare parts and is often undertaken at a national or international level. Therefore locally the supplier has to set up a separate supply of spare parts.
   c. **Poverty** – The users of handpumps in rural areas are usually poor and cannot afford to travel long distances for spare parts. Therefore outlets are needed at reasonable distances. Also there is often limited commercial development in rural areas and hence large commercial outlets which can better afford to lock up capital in an unprofitable item are not so easy to find.
   d. **Policy –** Government policies and strategies may indirectly pose barriers to sustainable supply chains for example relaxing duty on handpump imports for international organisations does nothing to encourage local procurement which is likely to help spare parts supply. Some agencies may also supply subsidized spare parts or even provide them free of charge which distorts the market and can prevent the lower links in the chain from working. Where subsidy is implemented it must be regulated by Government to ensure a uniform approach and adopted by all implementers.
   e. **Maintenance systems** – Reliance on the community management model means that communities needing the spares are scattered and hence the supply needs to be spread across a wider area which is not always commercially viable. A centralised maintenance system means that there is more demand from the central level to supply a larger area and places less stress on the supply chain. The centralised model also means that those responsible will tend to have their own transport and hence can access spares more easily.
   f. **Technology** – Reliance on imported technologies is the primary cause of the supply chain challenge. If pump components are available in plumbing or vehicle spares retailers the need for sector specific strategies disappears.

144 / Tearfund (2007) 'Partnering With the Local Church', ROOTS 11; from personal communications during the fieldwork and other

3. **A network of churches or other not-for-profit organisations providing spare parts –**

- 'Using non-profit organisations (such as churches) in spares provision has been suggested as a more viable alternative to the private sector approach for many situations (DeGabrielle, 2002). Recent research in Malawi has indicated that indigenous religious organisations provide a viable long-term option, so long as they have a reliable funding base, and examples are given of supply chains that have been in operation for 10 to 20 years (Alexander, 2003)'. Limitations in this role may be the number and stability of such organisations in a given area, but they have proven a successful alternative where the private sector approach has been unsuccessful.
- Other issues relating to possibly partnering with religious institutions such as churches or mosques[144]
  a. Some external resources or training may be needed – to increase the technical knowledge of the church members managing the scheme.
  b. Care must be taken that the religious organisation is willing to support the supply of spare parts for all members of the community rather than only members of the congregation or followers.
  c. The Pastor in a community is already often revered – care needs to be taken that adding additional responsibilities on to the church does not lead to an increase in this status and power, which whilst may be fine for many, may lead to opportunities for misuse of power for others.
  d. Community related projects may be more appropriate and sustainable from more established churches, rather than newer ones.

4. **A network of government-owned hardware shops** – In Malawi an example was shown where government owned hardware shops supplied spare parts down to district level, but when the chain of shops was privatised to individual shop keepers the supply chain was broken and it reduced the availability of spares.
5. **Supply chain linked to the provision of handpumps** – Some donors have attempted an alternative approach where 'spares provision is linked to the provision of technical services such as pump installation, borehole drilling and community mobilisation' where the supporting agency assists in building the capacity of indigenous private sector companies by providing staff with a range of skills and equipment, so that they are able to provide a range of services. This can be more successful than the seeding spares approach but has limitations in that demand for services is likely to be limited except in large towns.
6. **Public – private maintenance systems** – Such as the 'total warranty scheme', 'handpump lease concept' and 'water assurance schemes' place responsibility for the provision of the spares on the private service providers who have greater mobility than the rural communities. This may be limited by – the density of handpumps, the willingness of communities to pay for services & the capacity of the private sector. Refer to the full report for further details on these options.
7. **Spares supply through regional dealers and area mechanics with govt prepared list of spare parts retail prices** – The regional supplier keeps adequate supplies of stocks to supply communities directly or to area mechanics and the area mechanics are the principal outlet for the spare parts to communities who sells them at a small profit margin. Problems with this model include the significant distances that area mechanics might have to travel.
8. **Use very simple technologies which does not need specialist parts or components** – such as the Bush pump, the Rope pump, Bucket pump, or the AFRI pumps. A study by IDE in Bangladesh 'showed that the rural poor often prefer cheaper, shorter-life technologies in spite of the need to repair or replace them more frequently (Oyo, 2002)'. Shallow wells with bucket and windless are also lower technology options.
9. **Sponsorship approach** – This has not been tried on a large scale, but would involve large companies providing long term subsidies to the supply chain in return for advertising. This has been tried with the play pump in South Africa where the advertising fee for a sign on the raised tank is used for maintenance of the pump. This is only mainly useful nearby main roads.

KEY FACTORS FOR A SUCCESSFUL SUPPLY CHAIN

1. Adequate demand for the goods and services provided through the supply chain.
2. Sufficient stakeholders incentives (i.e. profit) to motivate private sector involvement.
3. Effective information flow between stakeholders to create and maintain the supply chain.
4. Effective supply chain management to build effective stakeholder partnerships and create a collaborative environment.
5. An enabling environment resulting from the policies and strategies of governments and NGOs which does not inhibit the market.
6. Technology choice – possibly the overall determining factor.

GOOD PRACTICE

- 'Where it is accepted that spare parts supply is not a stand alone commercially viable activity, external (government or NGO) facilitation, monitoring and regulation are essential'.
- The incentives for the stakeholders in the supply chain must be identified, whether profit or advertising opportunities, kudos or the 'feel good factor' from providing a community service, and it is important to assess whether the incentives are likely to be sustained.

THE PROFIT INCENTIVE FOR THE 'BUSINESS APPROACH'

- Many donors have provided a seed fund to private enterprises through providing a private company or hardware store, a stock of spare parts at nominal cost or free of charge, setting fixed retail prices for the parts and instigating an advertising and marketing campaign. The company is expected to replenish its stock from a central supplier to sustain the supply (examples have included such efforts in Ghana, Malawi and Zambia). 'In general this approach has not proved successful to-date due to low turnover and profits, meaning that the retailer has little ongoing incentive to invest profits in new spares'. Sustainability therefore relies on the goodwill of the retailer rather than sound commercial sense.
- Where agencies have continued to subsidize spare parts chains through covering transport costs this approach promotes a culture of dependency rather than alleviating it.
- In order to test the viable commercial availability of a spare parts supply at the user level a calculation can be made relating to handpump density – refer to the reference by Harvey & Reed (2004) for further details.
- 'By purchasing pumps at the lowest possible level i.e. as close to the community as possible, this ensures that spare parts are also available at this level, and where possible this supplier can also provide a technical service. 'The cost of this to the implementing agency may be slightly higher, but this should be a price worth paying to promote sustainability'.
- Promoting in-country manufacture also reduces the number of profit steps and can help to ensure that adequate quality control mechanisms are in place.

The authors believe that while the density of handpumps in Africa remains relatively low, that **private sector supply chains will not be sustainable** unless one of the following three criteria is met:

1. Spares supply is linked to the supply of pumps and related services.
2. Community management of maintenance is replaced with more centralized public-private systems.
3. Technologies are installed which use the 'standard' spares that are already available.

Other possible sources of information – WSP 'Supply Chains Initiative' – to promote sustainable supply chains for rural water supplies.

BIBLIOGRAPHY OF USEFUL DOCUMENTS AND RESEARCH

This section includes references which identify particularly useful lessons in relation to sustainability and its assessment.

Key useful documents:

- **Brikké, F (2000) 'Operation and Maintenance of Rural Water Supply and Sanitation Systems, A training package for managers and planners', IRC International Water & Sanitation Centre, WHO, Water Supply & Collaborative Council, Operation & Maintenance Network** – detailed with clear and useful info – a useful tool for preparing training on community based O&M.
- **Gardner, A, Greenblot, Joubert, E (2005) 'What We Know about Exit Strategies, Practical Guidance for Developing Exit Strategies in the Field', C-SAFE, A Product of the C-SAFE Regional Learning Spaces Initiative, Sept 2005 (CARE, CRS, World Vision, ADRA, USAID)** – useful document on exit strategies.
- **Harvey, P.A. and Reed, R.A. (2004) 'Rural Water Supply in Africa, Building Blocks for Handpump Sustainability', WEDC** - looks at the particular challenges to handpump sustainability in Africa. Has a section on spare parts networks.
- **IIRR, ACACIA Consultants Ltd & CORDAID (2004) 'Drought Cycle Management; A toolkit for the drylands of the Greater Horn', IIRR, ACACIA Consultants Ltd & CORDAID** – excellent publication on understanding working in the drylands and drought cycle management.
- **Schouten, T & Moriarty, P (2003) 'Community Water, Community Management; from systems to service in rural areas', ITDG Publishing** - analysis of 22 community managed water schemes in 6 countries on four continents over a 4 year period. One of the most useful sustainability studies in past years.
- **Soley, F & Thogersen, J (2002) O&M audit, A practical tool for sustainability, 'Sustainable Environmental Sanitation & Water Services, 28th WEDC Conference', Kolkata (Calcutta)', India, 2002** – based on an O&M audit process used in Ghana (supported by Danida) – some useful lessons for designing new O&M audit processes.
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- **Sutton, S (2004) 'Self Supply: A Fresh Approach to Water for Rural Populations', WSP, RWSN, DFID, November 2004** – self-supply – stepped upgrading by households at their own pace – strong ownership, affordable and sustainable.

Other useful:

- **Brikké, F & Bredero, M (2003) 'Linking Technology Choice with Operation and Maintenance in the Context of Community Water Supply and Sanitation, A reference document for planners and project staff'** – identifies specific O&M requirements of a range of technologies.
- **Cairncross, S & Shordt, K (2004) It does last! Some findings from a multi-country study of hygiene sustainability, in 'Waterlines' Vol 22, No 3, January 2004** – sustainability of hygiene practices.
- **Carter, R (2006) 'Investigating Options for Self-Help Water Supply; from field research to pilot interventions in Uganda', WSP, RWSN, DFID, October 2006** – examples of self supply in Uganda.
- **Christoplos, C (2006) 'Links Between Relief, Rehabilitation and Development in the Tsunami Response, A synthesis of initial findings', London: Tsunami Evaluation Commission** – lessons on LRRD.
- **Corsellis, T & Vitale, A (2005) 'Transitional Settlement, Displaced Populations', University of Cambridge Shelter Project, OXFAM** – includes disaster mitigation considerations.
- **DFID (2003) 'Promoting Institutional & Organisational Development'** – as per title.

- **DFID (2005) 'Disaster Risk Reduction: A Development Concern, A scoping study on links between disaster risk reduction, poverty and development'** – detailed study on the links between DRR & development and emergencies.
- **ECHO DG (2005) 'Model Guidelines for Mainstreaming Water & Sanitation in Emergencies, Protracted Crises, LRRD and Disaster Preparedness Operations'** – includes disaster mitigation & WASH.
- **Insouvanh, C & Gary, K (2004) Village-to-Village: Community-based study tours, 'People centred approaches to water and environmental sanitation, 30th WEDC International Conference', Vientiane, Lao PDR, 2004** – using Village to Village study tours to improve learning for sustainability.
- **Jennifer, S & Katz, T (no date) 'Making Rural Water Supply Sustainable: Report on the impact of project rules', WSP – a detailed sustainability study** – could be useful for developing indicators.
- **McGranahan, G, Njiru, C, Albu, M, Smith, M & Mitlin, D (2006) 'How Small Water Enterprises can Contribute to the Millenium Development Goals, Evidence from Dar es Salaam, Nairobi, Khartoum and Accra, WEDC** – small scale private sector providers for WASH.
- **Musambayane, N & Lidonde, R (2000) 'Demand Responsiveness, Participation, Gender, and Poverty; Making the links with sustainability of water and sanitation programmes', East and Southern Africa Regional Synthesis report, WSP** - identifies particular issues for sustainability as noted in the title.
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- **Shordt, K (2004) Sustainability of hygiene promotion and education: a six country research study, 'People-Centred Approaches to Water and Environmental Sanitation, 30th WEDC International Conference', Vientiane, Lao PDR** – particular focus on assessing sustainability of hygiene promotion.
- **WaterAid (no date) 'Who's in control?' – DVD on committee vs small scale private sector managed, experiences in Tanzania –** hear from the communities themselves as to the strengths and challenges of each management model.
- **Cotton, A (2000) 'Tools for Assessing the O&M Status of Water Supply and Sanitation in Developing Countries', WHO** – identifies some O&M indicators.

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• Spare parts dealer, Kokoya Statutory District, Boto-ta, Bong	Mr Joseph G. Naleh

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