Index

1. PROGRAM STRATEGY
1.1 PIN WASH strategy – overview of the vision
1.2 Overview of program objectives
1.3 Key principles
1.4 Approach and methodology
1.5 Donor and partner relations
1.6 Terminology

2. IMPLEMENTATION – PROJECT CYCLE
2.1 Survey and assessment – data collection
2.2 Project type selection – design and planning (emergency, post emergency, chronic situations or protracted conflicts, development)
2.3 Proposal - budgeting
2.4 Project management
2.4.1.1. Soft (terminology of hygiene and sanitation)
2.4.1.2. KAP survey and analysis
2.4.1.3. Hygiene and sanitation promotion cycle – methods PHAST, ALS, CLTS (making HP effective)
2.4.1.4. Operation and maintenance
2.4.1.5. Cross-cutting issues - LRRD (Linking relief, rehabilitation and development) – DRR, efficient and emergency water management
2.4.1.6. Hard (terminology of safe water and sanitation)
2.4.2.1. Site and Target group selection
2.4.2.2. Type of safe water source selection (construction and reconstruction)
2.4.2.3. Water quality – chemical and bacteriological testing
2.4.2.4. Water treatment
2.4.2.5. Community contribution
2.4.2.6. SPHERE – pros and cons analysis
2.4.2.7. Sanitation - latrines – location, type and beneficiary selection, procurement and logistics, construction and supervision, linking to soft – impact
2.4.2.8. ECOSAN
2.5. Procurement
2.5.1. Tendering procedures
2.5.2. Price list – unit cost
2.6. Reporting and filing
2.7. Networking and cooperation
2.8. Information – incoming (stop reinventing the wheel) and outgoing (visibility, press releases etc.)
2.9. HR (Organigram…)

3. MONITORING AND EVALUATION
3.1. Focusing on key issues – efficiency, effectiveness, sustainability, relevancy and coordination
Introduction

Why does PIN do WASH projects?
Currently, 1.2 billion people worldwide lack access to safe drinking water and 2.6 billion people lack access to adequate sanitation. 1.6 million people die every year from diarrhoeal diseases (including cholera) attributable to lack of access to safe drinking water and basic sanitation and 90% of these are children under 5, mostly in developing countries. Diarrhoea is after respiratory diseases and HIV third leading cause of death in the world. PIN WASH program aims to help to tackle this global problem.

The following guidelines are a sum-up of PIN experience in WASH projects in Afghanistan, Ethiopia, Kongo, Angola, Cambodia and Sri Lanka – programs are implemented in rural, often remote areas suffering from general water scarcity, severe droughts, deforestation and desertification, with the governmental coverage and support being low, with little technical know-how and low level of the hygiene awareness with the concept of “clean water and clean hands” is practically unknown (or not practiced). In other countries, you might find more developed environment, different traditional sources of water and different perceptions, but the guiding principles stated in this Manual should be applicable in basically any environment.

The guidelines are program specific and reflect experience from implementation. General and good quality manuals are available elsewhere (see useful links at 1.1 and the last chapter). However it can be useful in project designing and proposals.

Water and sanitation projects are predominantly short term relief operations. However, these are categorised into subdivisions. For example Afghanistan or Ethiopia are considered as chronic emergency caused partly man made and natural factors (ECHO concept paper – Chapter 6 Categorising WASH interventions in annex 01) therefore following guidelines are viewed as clearly humanitarian relief (with minor overreach to development) activity. In immediate emergencies speed of assistance is a decisive force while in chronic or protracted situations focus should be on cost effectiveness, sustainability etc.

The guidelines can be applied in other PIN missions providing there is qualified staff and WASH is preferably an integral part of the mission sector portfolio (not just an ad hoc project) and geographical situation is similar.

RDD manual and Emergency manual should be also studied in order to approach the subject from broader perspective.

Crucial docs
Here is a list of the most crucial docs to be read before every WASH intervention by both beginner and senior WASH staff:
1. Annex 01 - ECHO Water and Sanitation Review
2. Annex 11 - Project implementation guidelines
3. Annex 12 - Logical framework (archive)
4. Annex 17 - SPHERE handbook

1. PROGRAM STRATEGY
1.1 PIN WASH strategy overview of the vision

WASH sector is somewhat present in Afghanistan, Pakistan, Kongo, Haiti, Angola, Sri Lanka and Ethiopia (with different extent of activities). We aim to focus on typical rural WASH package which is complex integrated approach, consisting of three components:

1. **Providing safe drinking water** of standard quality and quantity (according to SPHERE standards),
2. **Hygiene & sanitation promotion** (including latrine construction) with developed methodology and measurable results and
3. **Operation & maintenance system** (including regular water treatment for example chlorination).


Even though WASH projects are understood as relief activities, in the future, PIN plans to link WASH to other sectors, such as education, agriculture, livelihoods and thus link relief and development. By doing so, it is planned to extend WASH to non-drinking water activities such as irrigation, disaster preparedness, social water management and effective usage of natural resources. Permanent WASH team should be involved (and its know-how used) in other projects (for example latrines and wells in schools and clinics, NSP water sources, livelihoods projects etc.)

WASH also aims to contribute to Millenium development goals (MDGs), particularly to goal nr. 4 – reduce child mortality via increasing child access to safe water.

PIN WASH staff is encouraged to support and develop the mission vision of sector.

1.2 Overview of program objectives

**General objective** is always to contribute to alleviation of hardship of rural populations (or more specifically - decrease of water borne diseases, which also asdesses MDG Nr. 4) via reaching an **immediate objective** that is to improve drinking water and hygiene situation while establishing mechanisms of sustainability.

Very important are the indicators to verify that the objectives were reached. Commonly used is **improvement of public health** supported by data collected from local clinics. Ideally, but not realistically, health situation should increase after the action. However, many factors contribute to the state of overall public health that it is very risky to set a health improvement as an indicator. Instead, results of KAP should by used as an indicator of household hygiene and sanitation improvement (see in Chapter 2.4.1.2. KAP bellow). Furthermore, survey data such as comparison of water quality and other SPHERE standards before and after the project are also a good and satisfying evidence of drinking water improvement.

1.3 Key principles
The ultimate goal beyond provision of drinking water continues to be the improved general health of the target community. To achieve this aim a continuous re-assessment is necessary to identify further necessary interventions to reduce health risks, especially for children. Also, further surveys should be conducted that include qualitative methods, such as Focus Group Discussions, to assess in more detail what keeps some families from changing their habits and to find out what supplementary support communities need to reduce the prevalence of diarrhoea and other diseases. Last but not least, advanced training methods such as PLA/PRA (Participatory Learning and Action and Participatory Rural Appraisal) or ALS (Autodidactic Learning for Sustainability) should be put in practice in order to ensure the message gets across to the target group. There are many methods and ways to conduct community work – the most suitable should be selected based on PIN know-how and staff experience. Full utilization of these methods however requires longer term intervention (at least 12-18 months).

1.4 Approach and methodology

Use common sense. Best WASH solutions are simple and straightforward and there is no need for rocket science. Then, complex and integrated approach while using local resources and know-how is an imperative. Very good study was done by John Hopkins University in 2007 (key findings see in annex 02 and full version on storage: S:\1_Central\2_Official_Docs_Guidelines-oficialni_dok_a_navy\C_Specific_Guid-spec_nav\2_Manual_RDD\Sectors\WASH\02_PIN_WASH_OTHER) and its main findings are that combination of three components mentioned in chapter 1.1. of this manual provide best results. In practice it is almost impossible not to raise expectations of beneficiaries but it is very important to put stress on first visit and focus group meetings. Competition between families or villages (like Clean village concept – see annex 03) are a good way to activate beneficiaries.

As for methodology, there are various methods to be used in the soft part (see Chapter 2.4.1.). PIN uses the following:

1. PRA/PLA (Participatory Learning and Action and Participatory Rural Appraisal) – for the initial assessment and community mobilization
2. ALS (Autodidactic Learning for Sustainability) – to initiate active approach of the community
3. KAP (Knowledge, attitude and practice) – to determine baseline situation; to measure the impact (by comparing baseline and terminal data)
4. PHAST (Participatory Hygiene and Sanitation Transformation - manual in annex 14) for participatory hygiene training
5. CLTS (Community Lead Total Sanitation) – for participatory sanitation training
6. C-T-C (Child to child training) – training within school clubs

An overview of approaches can be also found in Annex 38

1.5 Donor and partner relations

Sufficient experience and firm arguments are necessary when contacting donors. In WASH it is knowledge of local environment, hydrogeology expertise (PIN has a database of experts), baseline survey (KAP) and detailed assessment (especially needs of targeted area).

Not all projects are based on calls proposals. Personal meetings are necessary but taking donor representative to the area of proposed intervention works best. Some donors are reluctant to fund innovative projects. In WASH it mainly means copy/paste of functional WASH package. For example UNICEF approach is that they work in close collaboration with authorities and NGOs are contracted with very specific works (NGOs serve the role of contractors).
As there is a global trend to support larger projects, donors often finance larger consortia activities. Therefore, where possible PIN prefers partnership projects with Alliance 2015 members. Local partners are increasingly necessary for all types of projects. Issue of partners is elaborated in Partnership manual.

1.6 Terminology

WASH or WASH? – WASH is a UN name for the same sector, so it is not only Water and sanitation (WASH) sector but Water, sanitation and hygiene (WASH)

Program – WASH program covers both emergency and development actions. It is a long term activity that requires a permanent team that is in charge of not only implementation of current project but monitoring and evaluation of past projects and assessment and survey of new actions. WASH team should play an active role in the WASH sector of the country.

Project – Project (unlike program) is time bound activity. We can have WASH project (or just activity) within other programs. (In Afghanistan it is drinking water projects in NSP – National Solidarity program or latrines and hygiene trainings in school or clinic constructions)

Emergency WASH – is further divided to acute emergency, post emergency or chronic situations/protracted conflicts.

Acute Emergency WASH – no long term assessment covers immediate needs by drilling, digging, water trucking, bladders. Short term solutions that do not have to be necessarily sustainable. Stress on hard part, soft – trainings are small or nil. This type is largely used in IDP/refugee camps or during disasters. In (semi) temporary camps water trucking is largely used.

Post or chronic emergency, early recovery. In these projects more stress is put on work with community (participation, community based decisions) Also comparative KAP surveys must be done to determine the impact of the project. Chronic emergency can also be an area regularly stricken by drought. Early recovery is the step after acute emergency.

Development WASH – mostly means disaster preparedness. (See ECHO WASH model guidelines in annex 01) Also, as envisaged in program strategy PIN might extend activities to social water management and effective usage of natural resources and non-drinking water activities such as irrigation.

First visit – explains who we are and what we want. Conditions of cooperation (not help delivery) must be clear from the start (who provides what, under what conditions water points will be connected etc.)

Focus group discussions – to create action plan and determine real needs. Men and women should meet separately since they have sometimes different needs and points of view. For women, location of water point is important, for men the type of water point, level of contribution, maintenance are topics of discussion.

Action plan – is a step-by step list of activities made in simple way. It starts with needs assessment and ends with mitigation works. It is a simplified PCM (see annex 11).

Monitoring and evaluation - Monitoring serves to diagnose and help fix problems during program execution. Evaluation is the process of measuring outcomes both during and after the intervention, to determine how successful the program is, or has been. Evaluation records project performance by comparing the results with the set objectives. The results of evaluation should also serve to direct future
policy. The dividing line between monitoring and evaluation is not always clear, and the results of monitoring normally make a major contribution to evaluation. Implicit in evaluation is the question: ‘is this a cost-effective use of resources in comparison with other options?’ Though this is the ideal, in reality, few programs collect sufficient data to answer cost-effectiveness questions rigorously, or have access to comparable data from other programs. A further problem with cost-effectiveness comparisons in WASH programs is that outcomes may go beyond an immediate health impact and may be hard to define or measure. Comparative evaluations then face the problem of trying to compare apples with oranges. A balance has also to be struck between the benefits of detailed evaluation and the cost in time and resources.

**Participatory methods** – these are various ways to get basic hygiene and sanitation messages across to beneficiaries and thus not only increase the knowledge but mainly change behaviour (see chapter 2.4.1.3. Hygiene promotion cycle).

**Direct beneficiaries** – people who have direct access to water source or receive direct training (from PIN or local trainers)

**Indirect beneficiaries** – Those who do not have direct access to drinking water but benefit otherwise (reduction of diseases, development of the region, and ease of hardship) plus those who do not receive direct training but receive secondary information – other members of trained family)

### 2. IMPLEMENTATION – PROJECT CYCLE

#### 2.1. Survey and assessment – data collection

Because the initial assessment is not normally funded by the donor and the funding is not secure, it seems risky business to invest energy and money in detailed assessment. Therefore there are more levels of assessment. Stress should be put on getting as much relevant info as possible from other actors in the area. Also experienced and trained local PIN employee (member of WASH team) should by sent to the target area for longer time and together with a local guide travel the area thoroughly. District profiles can sometimes be obtained from government or UN bodies or should be done by WASH staff (example see in annex 25). A lot of information might be also provided by other NGOs working in the target area or downloaded from www. Google earth is a good source of maps. In emergencies, this kind of service is done by specialised agencies like Map Action (http://www.mapaction.org/)

An example of survey report done by local employee and assessment report done by international staff are available in annex 04. A hand-made (regularly updated) map depicting villages and water situation can be done by a local employee with knowledge of the region. GPS of every village and water point must be recorded. Select geographically, ethnically, culturally compact areas – enclosed valleys, clearly divided districts. It saves money and energy during implementation.

Two basic divisions (soft and hard) should be kept in mind during assessment and every aspect of assess activities should be viewed from these two points of view (for example two questions for a new water source – 1. is drilling technically feasible in selected location? 2. Is location easily accessible by all community including women?)

Select a key informant carefully. Villagers have often very useful information but limited to their village and its proximity. Broader info can be obtained from district authorities, clinics, schools and other actors (NGOs etc). Info should be collected during various seasons (winter and summer). For example water quality and diseases vary a lot throughout the year. A couple of assessment forms are available in annex 04 Some KAP assessment forms (approx. 5 per village) should also be filled out to predetermine the level of hygiene standards. KAP form is in annex 07)
If the drilling is contemplated as a part of the technical solutions, hydrogeology data should be collected from the authorities at the earliest stage. If not available, a simple hydro geological survey, which might include a test drilling, should be conducted. The best option is to combine local expert (thus know-how) and international specialist with experience from development countries and crisis areas.

Contact all other actors in the target area and coordinate activities (make detailed report in assessment sheet – see annex 05 – reporting format)

2.2. Project type selection – design and planning (emergency, post emergency, chronic situations or protracted conflicts, development)

Different operations have different dynamics which is good to keep in mind while planning, especially time and spending schedule. Some components can overlap.

Water and Sanitation projects must comprise of multiple components (1. access to safe water; 2. safe latrines; 3. hygiene education; 4. water treatment - chlorination). Only after all these components have been applied the project has a convincing impact on the communities.

Time, budget and number of beneficiaries must be carefully considered. It can happen that in given period of time we will not be able to serve proposed number of beneficiaries, provide proposed number of water points…in other words spend the budget.

Specific approach is adopted in projects where WASH is not the main sector (latrines for schools and clinics). While main responsibility will be on civil engineer and construction team, WASH team should be also involved in designing latrines etc.

**Recommendations:**

- Selection of villages should follow given criteria set during needs assessment which is mostly combination of WASH and socio-economic needs – on one hand absence of safe water source, poor hygiene situation and on other hand number of refugees/IDPs/returnees, incomplete or poor families etc.
- Use multiple information sources and cross-check them (KAP data, clinics data, other actors or authorities data)
- Although it is almost impossible, make final list of targeted villages with indicated type of intervention (well, spring protection, roof catchment). Expect the list to be changing regularly.

2.3. Proposal – budgeting

Experience from Afghanistan says, that when planning a regular WASH project (a district level “package” – chronic emergency, protracted crisis, early recovery phase) for 12-18 month project we can calculate interventions for 20 - 30 000 beneficiaries, max. 20 local staff budget approx. 500 000 EUR. Emergency project should follow ratio of 75% direct and 25% support costs (refer to RDD manual). Direct costs generally mean supplies, transportation of supplies, services contracts and sub-contracts and direct project staff salaries. Supports costs are all other costs covering mission and HQ running costs. We should not attempt to construct or repair more than 100 small water points since constructions are the most demanding works in terms of logistics, effort and time.

**Sub-budget line recommendations:**

- **Hardware** - When preparing the budget item price list should be made and kept updated. Make regular market price research. Make a bill of quantities for each type of work (well, spring, latrine, hygiene kit). For an example of bill of quantities see in annex 08. Question of locat procurement or international transpot is elaborated in Emergency manual.
- **Software** - Training costs normally include printing, training premises rental, per diem for trainers, transport costs, miscellaneous consumables costs – stationary, refreshment; and sometimes also outsourcing costs for external experts in case PIN does not have sufficient know-how (KAP, ALS, PHAST, PRA or other methods). Other staff training can be included too – English, computer skills, reporting, management courses etc.
- **Salaries** – the amounts should be based on mission salary scale. When planning, remember no-cost extensions, staff overlaps and bonuses. (HQ salaries should be covered too – certain %)
- Consider direct transport costs carefully. When working in remote areas these costs go up a lot. For indirect transport costs secure enough funds for car rental and maintenance (especially for remote areas with difficult roads).
- If setting up a new field office consider costs of reconstruction, upgrade, maintenance, fuel for heating, generator etc (also for communication and consumables). Storage place must be considered too especially when a large number of hygiene kits are planned.
- **Equipment** – these include engineering equipment (computer, software) and WASH related items – depth meter, water quality meter etc.
- **Specialised services** – these include hydro geology expertise, external evaluation etc.
- **Visibility costs** should be remembered too. Some donors (such as ECHO) are generous in this regard and give enough flexibility. It can be used for sign boards, media presentations, web pages, stickers, exhibitions etc. In extremely generous cases a part of communication officer salary – media department can be included too.

**Other recommendations:**
- Before spending we should check reporting requirements, flexibility of budget lines and reporting exchange rate.
- Project manager should make and regularly update simple expenditure table in order to monitor the spending.
- Approximate spending time plan should be made and regularly consulted with the mission economist (FO).
- Make clear cash-flow and financial competencies plan (example in annex 09)

### 2.4. Project management

ECHO PCM guidelines are in annex 10 Step by step implementation guidelines are in annex 11 and an example of a problem tree in annex 32.

There are two major fields – project management and HR management. For the project management, activities are divided on **hardware** (construction) and **software** (community work) part.

There is archive of WASH logical frameworks in annex 12

**As an NGO (and not a construction company) we should focus on work with communities. 60% of time and effort should be spent on software and 40% on hardware.** Unfortunately, the opposite is reality because of delays, ever coming quality problems, extensive paperwork etc. However, soft part should go before hardware in order to secure participation and partnership with community:

1. Assessment (to determine type and scope of operation)
2. Community mobilisation (first visit and action plan creation)
3. Baseline survey (followed by adaptation of training plan)
4. Constructions (community participation first) and hygiene trainings (participatory)
5. Operation and maintenance setup
6. Follow-up survey

Continuous monitoring and reporting system should work throughout the implementation.
2.4.1. Soft (hygiene and sanitation)
2.4.1.1. Community mobilisation – PLA/PRA

It is a crucial part of the project. With no community mobilised and no sense of ownership created there is no sustainability. Selection of beneficiaries should be therefore balanced between the needy and the active. There are various models of community mobilisation and participation. For the sake of clarity and simplicity of this manual only PLA/PRA – annex 35 (http://www.platraining.com/pla_pra.htm or http://www.aidworkers.net/?q=node/260) is mentioned. But again, it depends on mission know-how and experience to determine which method will be used (such as competitive methods shown in annex 03).

For mobilizing communities and allover work with communities, principles of Participatory Learning and Action and Participatory Rural Appraisal (PLA/PRA) \(^1\) should be used.

2.4.1.2. KAP survey and analysis

KAP is the ultimate tool to measure impact of the intervention (used mainly in health related projects). In short, two household surveys are done (at the start and end of project) and then compared in at least 10% (households) of the target area. With the help of KAP analysis we should be able to determine if our action added value. KAP guidelines (annex 26) and questionnaire form in English is in annex 07. It has to be translated to local language. Quality of information collected is crucial for realistic analysis of the hygiene situation of target communities. Time span between baseline and follow-up data collection should be as long as possible.

Other important preconditions are:
- Experienced KAP analyst and trainer (who works with SPSS software)
- Proper training of KAP data collectors

To be able effectively compare data it is necessary to have and use SPSS software (http://www.spss.cz/software.htm) where all collected data are entered and compared. This activity is normally outsourced. PIN finds and hires (contract on providing services) a KAP specialist who takes charge of the analysis and trains data collectors. PIN manages data collection and supplies info to specialist.

Limitations of KAP
As mentioned above relevance and reliability of data is crucial. PIN has been using KAP in WASH for only a short period of time and at some points (like sample size determination, site selection, data entry, etc.), there have been a number of shifts in the scope and focus of participation:

- Emphasis on sub-national, national and international decision making, not just local decision making
- Greater recognition of issues of difference and power
- Emphasis on assessing the quality and understanding the impact of participation, rather than simply promoting participation

PLA approaches and methods include: diagramming, mapping, ranking, interviewing, seasonal calendars, matrices, card sorts, collages, group work, timelines, trend and change analysis, oral testimonies, case-studies, stories, participant observation, on-the-spot analysis, and more. Robert Chambers notes that key shifts of emphasis in PLA entail a movement from: dominating to empowering, being closed to open, individual to group, verbal to visual, measuring to comparing, ranking and scoring, reserve to rapport, frustration to fun.

\(^1\) Participatory Learning and Action (PLA) is an umbrella term for a wide range of similar approaches and methodologies, including Participatory Rural Appraisal (PRA), Rapid Rural Appraisal (RRA), Participatory Learning Methods (PALM), Participatory Action Research (PAR), Méthod Active de Recherche et de Planification Participative (MARP), and many others. The common theme to all these approaches is the full participation of people in the processes of learning about their needs and opportunities, and in the action required to address them. Participatory approaches offer a creative approach to investigating issues of concern to poor people, and to planning, implementing, and evaluating development activities. They challenge prevailing biases and preconceptions about people's knowledge. The methods used range from visualization, to interviewing and group work. The common theme is the promotion of interactive learning, shared knowledge, and flexible, yet structured analysis. Participatory approaches can also bring together different disciplines, such as agriculture, health and community development, to enable an integrated vision of livelihoods and well-being. They offer opportunities for mobilising local people for joint action. In recent years, there have been a number of shifts in the scope and focus of participation:

- Emphasis on sub-national, national and international decision making, not just local decision making
- Greater recognition of issues of difference and power
- Emphasis on assessing the quality and understanding the impact of participation, rather than simply promoting participation
analysis, training of interviewers etc.) the lack of experience is apparent. Despite training of all interviewers in using the questionnaire it is possible that in some cases answers were misinterpreted and wrongly documented. In the next WASH interventions this should not be expected to the same extent as in the baseline survey, because the interviewers will have more experience.

Some questions or answers might have been also mistranslated and the validity of our questionnaire might have been influenced. It is because beneficiaries may have had certain expectations and therefore adjusted the answers accordingly. In follow up study we couldn't assessed few villages that were assessed in baseline survey because of insecurity. This might happen in the future and it is necessary to select the similar numbers of villages from other regions for valid comparison and evaluation.

Main objective must be not only provide people with access to safe water, but make them understand why it is important to change their hygienic practices in daily routines. Because… “While knowledge improves considerably, practice or behaviour change is (in many cases) almost nil” – IRC website.

The main lesson learnt in this respect is that we should step up holistic community approach and visit selected household more than just once to ensure that beneficiaries understand the importance and consequences of good habits for their health and to help them accomplish the necessary changes in their lifestyles. Moreover, the activities that are additional to providing mere knowledge, such as describing latrine cycle by taking them to the field, should continue.

KAP activities checklist:
1. selection of 10% of households of the targeted area
2. selection of KAP specialist
3. translation of KAP questionnaire into local language
4. selection and training of data collectors
5. baseline data collection
6. specialist (or assistant) enters data into database
7. baseline report issued by specialist
8. (implementation of the project)
9. follow-up data collected (by preferably same collectors in the same area but not necessarily in the same households)
10. data is entered into database
11. specialist compares data and issues final analysis

2.4.1.3. Hygiene and sanitation promotion cycle – participatory methods PHAST, CLTS, ALS

Conducting hygiene promotion (HP) is a demanding activity since it requires a lot of time, logistics, travel and human resources especially when working in remote mountainous areas. Although it takes only a small percentage of the budget, HP requires special attention. Promotion combines two other sectors – education and health. Moreover, there is a good deal of social work. Therefore the trainers should have experience from more sectors. PIN trainers should prepare the training plan that should include:

- targeted number of direct and indirect beneficiaries (and communities)
- number of training cycles
- topics of training
- duration of each cycle
- record of participants and hygiene kits distributed

There is an example of training plan in annex 13. Each training step should be recorded and participatory methods should be used.

Training of PIN trainers should take place at early stage of the project. Trainers should receive updated training from professionals (UN, other NGOs, authorities both educational and medical) in methodology and modern teaching methods.
As mentioned above the crucial target is to change attitude and behaviour as far as hygiene and sanitation practice is concerned. A key message, transmission of diseases, beneficiaries should understand is F – diagram:

![F – diagram](image)

**Methods of participatory approach**


<table>
<thead>
<tr>
<th>The PHAST approach enhances the confidence &amp; ability of rural people to take action for improvements in WASH by using participatory principles of adult education. PHAST is organized in a systematic way which</th>
<th>The CLTS approach ignites a process to inspire &amp; empower rural communities to stop open defecation and to build + use locally adapted latrines without any subsidies. The main trigger is that communities collectively</th>
</tr>
</thead>
</table>

2 PHAST has emerged as a new approach to facilitate hygiene behavioural change in the beginning of 1990s. PHAST come forward as cause of unsuccessful conventional health education which fell short of bringing sustainable change among especially the rural illiterate population. Developing from different concepts such as SARAR (Self-esteem, Associative strengths, Resourcefulness, Action-planning, and Responsibility) in the 1970s, PROWWESS (Promotion of the Role of Women in Water Supply and Environmental Sanitation Services) in the 1980s and related to KAP– research (Knowledge, Attitude, Practice), PHAST has become a very promising and vastly applied approach. Yet, in the 21st century, another encouraging behaviour change approach, called Community-led total sanitation (CLTS), arose. CLTS ([http://www.livelihoods.org/hot_topics/CLTS.html](http://www.livelihoods.org/hot_topics/CLTS.html)) was pioneered, successfully implemented & monitored by VERC, Kamal Kar & Robert Chambers/ IDS in Bangladesh. CLTS then rapidly spread over Asia & Africa promoted by major development actors, i.e. WaterAid, Plan, USAID & WB.
suggests a sequence of seven steps, which by itself contain of a set of activities & tools.
The seven steps are:
1. Problem Identification,
2. Problem Analysis,
3. Planning for solutions,
4. Selecting options,
5. Planning for new facilities,
6. Planning for monitoring,
7. Monitoring & checking-progress

While the first five steps facilitate the community-group passing through a participatory transformation process, the final two are directed towards tracking the results generated from this process. Main references: WHO (1997), WaterAid/KHC (2008)

realize the shame, disgust & fear of fecal-oral contamination which they personally experienced.
The main steps in CLTS are:
1. Shame/Transect walk,
2. Community WASH Mapping,
3. Feces Calculation,
4. Flow Diagram/ Exercises,
5. Solutions/ Follow-up.

These Entry-PRA-activities are commonly complemented by education sessions, community meetings, campaigns, monitoring & replication efforts. Main references: VERC (2005), ABoH/USAID/WB (2007), IDS (2003)

There are several approaches how to attempt to change human behaviour…it is often more cost-effective to rely on social ambitions rather than health arguments to motivate people to adopt better hygiene. (http://www2.irc.nl/page.php/21)

ALS (http://www.cde.unibe.ch/Tools/ALS_Ts.asp) is a participatory approach that enables beneficiaries to find out importance of the messages themselves, created in Switzerland and successfully applied in Central Asia and piloted in Afghanistan by PIN within PEEP project funded by the European Commission

Also there are some ambitions outside health improvement indicators such as:
- General ease of hardship (and time saved if water source is close to homes)
- Income generating potential (availability of water might boost business and construction)
- Increase of social status (make latrine an item of luxury)

**Limitations of hygiene indicators**

Generally accepted and most logical objective of WASH operations is “Increase of access to safe drinking water and improvement of hygiene and sanitation standards”. However, indicators to prove that this objective was reached vary. The problem we face here is that we are forced to rely on data from health facilities. First, reliability of such data is questionable because it depends how developed reporting system in target area is. In remote areas, beneficiaries are not used to visit health points regularly thus they are not included in the statistics. In many cases the sick are treated at home sometimes by self-made and uneducated medics. Activities (information campaigns) of health services implementing agency in target region is vital precondition for population discipline and is beyond the scope of WASH program.

### 2.4.1.4. Operation and maintenance

Operation and maintenance is important for sustainability of WASH actions. Without it, operation loses value and becomes cost ineffective. A diagram bellow shows the system of maintenance. However, there are different systems and not all of them are based on money collection (in some cases mechanic receives in-kinds (wheat etc.) for his work and spare parts)
Members of Water committees (head, assistant, treasurer) as well as caretakers and mechanics should be selected in the beginning of operation. There should be one caretaker per water point, but one mechanic and WC can administer more water points. Trainings should be recorded and training plan prepared. Engineering team should be responsible for conduction and supervision. Mechanic should be deployed in construction works as a part of construction company and then work as a private businessman. Normally, mechanics receive a set of tools and spare parts. For more detail on the system see Lessons learnt – ECHO Daraisuf) Example of Operation and maintenance manual is in annex 15.

2.4.1.5. Cross-cutting issues - LRRD (Linking relief, rehabilitation and development) – DRR, efficient and emergency water management

In ideal case (if there is a permanent WASH team) mission strategy might go beyond typical emergency WASH package. The sectors are:

- Disaster preparedness
- Health and education (latrines and promotion at schools and health institutions)
- Research, monitoring and evaluation of water situation in crisis areas
- Efficient and social water management
- Irrigation and agriculture

These issues go beyond the scope of this manual and will not be further elaborated (manual concentrates on emergency and early recovery phases).

2.4.2. Hard (safe water access)
2.4.2.1. Site and Target group selection

The site selection should be based on hydrogeology expertise. External specialist should be invited to carry out the assessment. In some countries like Afghanistan there are no geology maps available therefore site location is rather difficult. Location should be geographically compact. We tend to distribute help according to geographical criteria (it is technically possible to build a new water source) rather than according to needs criteria. A compromise has to be made.
One of the basic rules is that Operation and maintenance systems are established (and preferably community work is done) before hard works start.

As for target group selection it largely depends on the donor call and proposal that might address various situations (drought, refugees and/or returnees). Communities should be assessed and mobilised in order to ensure cooperation and sense of ownership.

2.4.2.2. Type of safe water source selection (construction and reconstruction)

New types of water sources and innovative methods are very rarely used during PIN WASH operations. It is because best approaches have been invented by other actors and because PIN prefers to follow local know-how. However, existing systems can be improved (such as water collection from kandas by hand pumps). Continuous search for innovative methods of community work, participation and training is also desirable but not always supported by donors. Simple solutions are preferred to those requiring engines or other complex mechanisms.

**Construction types**
There is a wide range selection of the possible water sources and when selecting the most appropriate one, following list should be taken into consideration:

- Shallow wells – hand dug
- Deep wells – bore wells, rotary drilled or hammered by percussion method (cheaper)
- Spring protections – with or without gravity pipe scheme (depending on distance of spring from village)
- Rain water harvesting – region specific (roof catchment, kanda etc.) (manual can be found in annex 29 and web site [www.ircsa.org](http://www.ircsa.org))
- Emergency constructions – bladders, tanks, wash centres, filtering stations

Details and construction specifications, techniques and problems can be found in lessons learnt of various projects (see annex 16 – Lessons learnt PIN WASH projects). Designs vary from country to country and local technologies should be used and specialised authorities and companies contacted. Photos depicting various solutions are in annex 31.

**Construction limitations**

**Delays** in construction work can put the whole implementation in jeopardy not only because of the fact that drinking water would not reach proposed number of beneficiaries but also there will be under spending of the budget and enough space and time to utilize all the funds which has to be returned to donor.

**Leakage** of pipe systems is a biggest problem – a special attention must be paid to reservoirs (must be properly sealed and frost – proof) and piping connections. Taps should be sturdy made from quality material.

**Complex systems** should be possibly avoided because they cause maintenance problems.

2.4.2.3. Water quality – chemical and bacteriological testing

In measuring quality we are interested in following main categories:

- **chemical** – organic, inorganic, pH;
- **physical** - turbidity, conductivity (salinity), total dissolved solids – TDS, odour, taste, colour;
- **microbiological pathogens** - bacteria (E-coli: faecal and thermo tolerant coli forms; Hydrogen sulphide - H₂S - bacteria), virus, protozoa, helminths.
Do your own testing (include purchase of engineering equipment in initial budget) Moreover, use certified lab whenever possible. In some locations there might be need for additional measuring (nitrogen, arsenic, fluoride) if these levels tend to be problematic.

Del Aqua developed by OXFAM is widely used. Del Aqua measures bacteria (E-coli), ph, temperature and turbidity [http://www.delagua.org/index.html](http://www.delagua.org/index.html). There are also number of yes-no bacteriological tests.

Other tools used by PIN:

2. E-coli incubator and contact slides Merck Envirocheck Contact C ([http://www.merck-chemicals.com](http://www.merck-chemicals.com))

Visit following websites for more info:

- [http://www.aidworkers.net/?q=node/602](http://www.aidworkers.net/?q=node/602)

PIN Kongo uses POTATEST KIT (WAGtech company) - [http://www.wagtech.co.uk/](http://www.wagtech.co.uk/)

*Limitations of Del Aqua (from outside source)*

“A possible solution could be a design based on the Del Agua water testing kit used by Oxfam. This kit could be usefully modified in three areas to make it more suitable for use: 1) The Del Agua kit is currently battery powered, making it expensive, heavy and reliant on routine access to a stable power supply. 2) Although the kit has the potential to give an accurate reading for the concentration of faecal coli forms, in practice the result given is normally, "none," "a few" or "too many to count." The process could therefore either be simplified to reflect the level of accuracy attained in the field, or a system could be devised to enable the operator to give an accurate reading for the concentration of faecal coli forms. 3) The kit is reliant on a factory-produced rather than a locally-produced membrane. (This membrane collects faecal coli forms and then acts as a surface for incubation of those coli forms into colonies that are large enough to be visible to the naked eye.)”

2.4.2.4. Water treatment

*Household treatment*

In case we cannot assure provision of safe water according to SPHERE standards, water has to be purified (treated). This is mainly the case of rain water harvesting or target households located in proximity of open water sources (mainly rivers, lakes). Focus is on removing biological pathogens. HWTS (Household Water Treatment and Safe storage) method can be used following multi-barrier approach (1. Source protection, 2. Sedimentation, 3. Filtration, 4. Disinfection, 5. Safe storage).

There are two basic types of water purification a) mechanical b) chemical. For mechanical there are basic types of filters sand, ceramic and membrane filters. Slow (bio) sand filters are widely used and can be locally made (useful links can be find on [http://www.cawst.org/](http://www.cawst.org/), [http://www.irc.nl/page/4530](http://www.irc.nl/page/4530) and
Basic clay pot filters can be made in local pottery. Ceramic candle filters (www.nazava.com) or nowadays more and more affordable membrane filters (http://www.vestergaard-frandsen.com/lifestraw) have to be imported, are not sustainable and should be used only in life-saving emergencies. Sand and clay pot filters have much more sustainability potential and can be promoted through marketing methods (see more on Sanitation marketing in chapter XX). Other makeshift method is draining through a cloth (provides very basic results).

For chemical it is mainly sedimentation (flocculation), disinfection and chlorination.

Sedimentation is done most widely by aluminium sulphate or Alum bloc. Natural flocculants are moringa seeds or some types of cacti.

Disinfection is easy to be done by boiling but it is most energy consuming way to do so. Pasteurisation and distillation is even expensive but solar disinfection can be an option. See Technical solutions file in the archive or go to http://www.sodis.ch/index_EN for more info.

There are two types of chlorination - either so called shock chlorination – after completion (repair or maintenance) of a water source or regular (here stress must be put on training of responsible caretaker. It has to be approached very carefully because there is a danger of poisoning in case of improper use. Local water authority or UNICEF should be contacted to advice on this subject. Free, bound and residual chlorine must be regularly measured. For more info go to Technical solutions file in the archive.

Widely used solution is a sachet of chemicals (provide both sedimentation by aluminium sulphate and chlorination by sodium/calcium hypochlorite) – Waterguard, Watermaker, Bishanghari, PUR (http://www.purpurifierofwater.com/) which is distributed on household level (sometimes by local administration). PUR is well known in African countries. Amount is measured for 20 l jerrycan. In emergencies these chemicals are often available in-kind and distributed to affected population.

There are also hi-tech imported water purification systems (that combine mechanical and biological purification) available on Czech market (http://www.tesla.cz/en/water-treatment-solutions) and some of them might be quite suitable for primary emergency situations. PIN HQ is regularly approached by different commercial producers. However, mechanical filtering is probably most suitable and local technologies should be used. Even the simplest technologies require certain attention and have to be properly and regularly maintained (which puts even more challenge on successful Operation and maintenance system).

More info on household treatment can be found on: http://www.who.int/household_water/en/ or consultations can be made with CAWST (http://www.cawst.org/).

Safe storage is often underestimated issue but it should be properly promoted. Containers should be locally available, durable, easy handle and clean and lid should be strong and replaceable.

**Mass water treatment**

Large amount of water is treated in camps supply or community network supply. Normally water is first treated for turbidity (aluminium sulphate) in order to make chlorination more effective and for bacteria (chlorine). Generally, PIN does not have technical capacity to provide such service that is suitable for refugee camps. Large OXFAM tanks, plumbing sets, hoses, pipes, and motor pumps are necessary and theses systems are not sustainable in the long run.
2.4.2.5. Community contribution

Community contribution issue is feasible only in early recovery projects. It is not realistic to deploy community into relief operations, especially as far as hard component is concerned. It very much slows down the process. Community contribution leads to sustainability which is not primary goal during emergency phases.

There is an overlap in Community contribution issue between soft and hard parts. While community is mobilised via contribution, the contribution itself is mainly connected with construction unskilled labour. Local approach is not only country specific but the level of enthusiasm can vary within one district.

The basic rule is that community contribution must precede other skilled (paid) works. In most cases it is logical because contribution is in a way of excavation or digging. In some cases community members are willing to provide all works if materials are provided. In these cases work quality must be supervised closely. It is also possible to have a different (project non-related) contribution like road repair which contributes to the project indirectly (improves access for trucks and machinery).

2.4.2.6. SPHERE standards

SPHERE standards (in annex 17) are widely used as an indicator of water quality and should be a part of every WASH logframe. The standards are made for disaster response therefore they are not always applicable in chronic emergencies or operations linking emergency with development; or in situations where no sources of water of clean water are available and the treatment is for certain reasons not applicable. We should bear in mind that if we cannot reach the SPHERE standards, it does not mean we should not provide the beneficiaries with no water at all. Even the water with the problematic quality might be lifesaving. On the other hand we must realise and carefully consider the fact that the polluted water is dangerous and thus contra productive.

Limitations of SPHERE standards
As the most challenging and questionable indicator seems to be 250 people per safe water point. As we mostly work in remote areas untouched by development it does not make much sense to “saturate” one area by water sources while omitting others. For example, the area inhabited by 33 000 people requires 132 water points (according to SPHERE standards) which is mostly beyond our implementation abilities. The option would be reducing the area and the number of beneficiaries but it would not be acceptable by the donor.

Solutions
A combination of verification sources is needed. The most appropriate source to measure project impact is KAP survey analysis unofficially supported by clinics data. Clinic data alone should never be taken as the primary source of verification for behaviour change.

2.4.2.7. Sanitation - latrines – location, type and beneficiary selection, procurement and logistics, construction and supervision, linking to soft – impact

Adequate sanitation systems include both facilities and behaviours that form a hygienic environment and reduce people’s exposure to disease-causing organisms. A more comprehensive explanation of the requirements of such systems can be found in the WHO publication Sanitation Promotion published in 1998 (http://www.who.int/water_sanitation_health/hygiene/envsan/sanprom/en/index.html ). The health-based criteria are important, but not sufficient to guarantee the effectiveness of sanitation interventions. Crucially, sanitation improvements have to meet the perceived needs of the intended users, among which health improvements are often at best secondary. Surveys show that the main reasons people give for wanting some sort of toilet facility are:
• **Convenience** – women in particular dislike having to walk long distances to relieve themselves;
• **Comfort** – people dislike the smell of excreta and public toilets in densely populated communities are generally appalling;
• **Safety and security** – defecation sites are dangerous places for women and children; and
• **Status** – families are ashamed when they cannot offer guests proper toilet facilities.

Meeting these desires does not make a toilet a sanitary facility. That can only happen when the sanitation system is combined with hygienic behaviour based on an understanding of the effect of bad waste management in general and the effects of excreta on health, in particular. Personal and public hygiene and care for even the simplest sanitary facility are at the core of good sanitation. (Source: [www.irc.nl](http://www.irc.nl))

Within project implementation PIN builds following types of latrines:

1. Single Ventilated improved pit (VIP) latrines for private households
2. Double or triple Ventilated improved pit (VIP) latrines for public spaces
3. School and clinic latrines

Other technologies include:

- Simple pit latrines
- Double vault pit latrines
- Pour flush latrines
- Septic tanks
- Composting toilets
- Biogas
- Dewatering toilets

Different types of latrines are described in Annex 19. For single VIP latrine the price limit is normally 60, - USD (material only, labor provided by beneficiary). Standard design of latrine and slab used in Afghanistan is in annex 18. Each beneficiary receives a set of materials (latrine slab, door, ventilation pipe, mosquito net for window, beams for roof). Material composition might change from country to country. VIP type of latrine is appropriate where people do not use human waste as fertilizers (see ECOSAN). These types of latrine are also recommended for areas where the water table is not close to the ground surface, in emergency cases, and in urban areas. This type of latrine represents a marked improvement: smells and fly problems are greatly reduced, and the latrines can be put closer to houses, thus more accessible, especially for children. To eliminate flies and bad smell, the dry latrine can be improved to a Ventilated Improved Pit (VIP) latrine. A VIP latrine has a ventilation pipe to carry away the bad smell. The inside is kept quite dark so that flies in the pit tend to travel up the vent pipe because they are attracted by light.

School and clinic latrines are normally built by contractors as a part of the whole construction agreement. However, standards should be followed too (see chapter limitations of latrines bellow)

An example of Afghanistan sanitation manual is in annex 19. There is a good summary of sanitation subject developed by WHO in annex 20.

Latrine construction provides one of most logistically challenging activities in WASH projects. It is because the activity should follow these criteria:

- **Latrine is built by beneficiary** (except school and clinic latrines)
- Use of local resources
- Use of standard VIP design
- Replicability (materials must be cheap and design simple)
Increasing demand is a goal. People must WANT to use latrines. These are crucial elements for increasing demand thus coverage:

- Attractive design
- Safety and security
- Establishing market
- Improving institutions

Latrine construction is divided between engineering team and training team. It is often the case that nobody wants to be responsible for latrine construction from obvious reasons. It is advisable to clearly divide responsibilities between training and engineering team – for example and step-by-step instructions see annex 21.

Sanitation training is inseparable part of hygiene training and is provided by trainers. However, during the trainings beneficiaries should be taken to the field (for walks or so called shame walks) during which practical examples including construction techniques should be shown (see CLTS).

**Limitations of latrines**

The purpose of simple pit latrines is to isolate a dangerous material (feces) full of pathogens for long enough (2 years) till the material becomes harmless.

The separation of fecal matter from drinking water is critical for controlling the transmission of diarrheal diseases. However, the latrines mostly in use provide little protection to the drinking water sources. The results of several latrine studies point to many household behaviors and characteristics that suggest that containment of fecal matter is not maintained.

A typical latrine is not a pit latrine but rather a vault latrine with inadequate closure at the back, no separate urine pipe or vent pipe, on higher ground than the drinking water supply and rarely cleaned. When cleaning occurs, the majority of the households dumped the fecal matter outside near the compound. Additionally, many latrines have obvious faecal matter on the surface of the latrine floor. It is social and cultural constraints that prevent latrine owners from proper dealing with human waste.

Clearly there are ample routes of fecal contamination into unprotected water sources, transmission by hands and feet with easy spread throughout the compound and village. The above mentioned issues should be stressed during sanitation trainings (or shame walks).

Furthermore, replicability of latrines does not seem to work. The idea behind replicability is that neighbours of latrine builders see latrines as a positive thing and copy the existent latrines. Same as hygiene trainings it is often more cost-effective to rely on social ambitions rather than health arguments to motivate people to adopt better hygiene.

**Operation & maintenance** - systems do not seem to work when applied solely for latrines. O&M of latrines should be connected to those of water sources – for example money collected for water can be used to maintain public latrines nearby.

2.4.2.8. **ECOSAN (economy, ecology and sanitation)**

It is a system that integrates sanitation and agriculture, by using human waste as fertiliser and soil conditioner. It recognises human excreta and household wastewater not as waste but as resources that can be recovered, treated where necessary and safely used again. Urine is used diluted with water or undiluted. The faeces are stored and composted before use. (mixed with ashes, soil, leaves, grass, sawdust or any available). In this way we believe, ECOSAN promises a clear advantage over the traditional water borne sanitation systems and other dry sanitation systems. While this system appears sound, its actual feasibility has yet to be empirically verified.

Composting toilets recognise two types of processes to decompose the feces:
**Aerobic** – needs a proper ventilation and maintenance. This process uses heat to kill pathogens and turn excreta into compost. However, human faeces is not very good material for composting so we need to add other things like green waste, saw dust, ash…

**Anaerobic** process is cold – we need to separate urine and control moisture. Process needs dark, unventilated space and in 2 years the material becomes harmless – free of pathogens.

2.5. Procurement

PIN procurement guidelines must be observed followed. They are available in RDD manual. Furthermore guidelines of the donor must be observed too. Item price list should be kept by each project team and regularly updated.

2.5.1. Tendering procedures

Tendering procedures and formats can be found in procurement guidelines. Before each tender PIN should search the market and create PIN bill of quantities. This should be further compared with offers from bidders in order to ensure cost-effectiveness of the project. For the same purpose, designs should be compared with other actors in the sector.

2.5.2. Price list – unit cost

To be added…

2.6. Reporting and filing

Reporting and filing guidelines can be found in RDD manual. There are also guidelines related to archive and final evaluation of the project. Lessons learnt in annex 16, reporting format in annex 05. Good filing is important for keeping know-how. Hard copies of all important documents should be kept in archive. The list of regular WASH documents can be found in annex 28. Permanent WASH team should create an internal water point database that should be regularly updated.

2.7. Networking and cooperation

WASH is a big sector with many agencies implementing similar projects. It saves a lot of effort to map the area of intervention beforehand and meet all actors of the same sector. Normally, there are regular sectors meetings (clusters) on country or region level which should be attended. Cooperation within Alliance 2015 members is always desirable for the sake of effectiveness, experience sharing and cooperation.

2.8. Information – incoming (stop reinventing the wheel) and outgoing (visibility, press releases etc.)

Example of WASH presentation is in annex 22 and example of activities summary in annex 23. There should be a press release at the start and end of every project, example see in annex 24. There are various types of visibility activities ranging from sign boards, posters, t-shirts to exhibitions, TV and radio presentations.

2.9. HR

**WASH team has three components:** 1. Management 2. Engineering 3. Training
Team
A permanent WASH team should be created in order to build and keep know-how, seek sustainable and innovative methods and interventions, carry out regular assessment, permanent evaluation of programs, engage in sector discussions and monitor the development of WASH sector.
Make sure there are enough experienced engineering site supervisors to be daily in the field.
Make sure there are enough experienced hygiene promoters.
At least one local guide-navigator is necessary.
At least one hydro-engineer and one experienced trainer with medical background should be in the team to lead software and hardware sections.

Specific requirements
In training team staff should be primarily experienced in:
1. KAP data collection and analysing
2. Conducting participatory trainings using PHAST, PLA/PRA or ALS methods

Engineers should be able to:
1. Design projects in AUTOCAD
2. Prepare budget and bills of quantities

For organizational chart (Organigram) and job descriptions see annex 27.

Staff turnover
Training local staff for one year project is very inefficient because after the completion of the project there is not further chance for qualified staff employment. The question of staff mobility should also be considered during selection of future project locations. All in all staff turnover delays implementation, PIN loses know-how and level of professional approach decreases since new people tend to make more mistakes.

3. MONITORING AND EVALUATION
3.1. Focusing on key issues – efficiency, effectiveness, sustainability, relevancy and coordination

Terminology of monitoring and evaluation is described in chapter 1.7. Questionaire format, reporting guidelines and example of ToR can be found in annex 06 and an example of evaluation report in annex 33. The key objectives of the M&E framework are:

- To measure change in behavior consequent to the intervention
- To estimate the health impact of the intervention i.e. the reduction in diarrhoeal disease
- To measure program effectiveness in impacting the target population
- To estimate the cost-effectiveness of the approach in different contexts

Suggested format of the report:
1. Intro and the structure of the report
2. Methodology used
3. Description of action
4. Relevance (against the objectives of the action)
5. Effectiveness
6. Cost-effectiveness
7. Efficiency
8. Impact
9. Sustainability
10. Conclusions and recommendations

Annexes:
1. ToR
2. List of people met
3. Maps
4. References

4. CONCLUSIONS AND RECOMMENDATIONS

- Question No.1 **Does our action add value?** should be repeatedly asked.
- When planning regular WASH project (package) for 12-18 month project we can calculate interventions for 20 - 30 000 beneficiaries, max. 20 local staff budget approx 500 000 EUR. We should not attempt to construct or repair more than 100 small water points since constructions are the most demanding works in terms of logistics, effort and time.
- Create permanent WASH team to monitor past activities and assess new ones
- Focus on community participation and ownership

5. APPENDIXES AND FORMS (useful docs and links)

1. WHO – comprehensive info [www.who.int/water_sanitation_health](http://www.who.int/water_sanitation_health)
2. WASH useful links on NGO forum [http://www.aidworkers.net/?q=advice/WASH](http://www.aidworkers.net/?q=advice/WASH)
7. Source of valuable WASH research info [http://www.irc.nl/](http://www.irc.nl/)
8. WaterAid [http://www.wateraid.org.uk/](http://www.wateraid.org.uk/) (an international NGO dedicated exclusively to the provision of safe domestic water, sanitation and hygiene education to the world’s poorest people)
9. Rain water harvesting on [www.ircsa.org](http://www.ircsa.org)
13. UK academic platform of University of Loughborough [http://wedc.lboro.ac.uk/index.html](http://wedc.lboro.ac.uk/index.html)