CARE INTERNATIONAL IN KENYA

SUSTAINABLE LIVELIHOOD SECURITYFOR VULNERABLE HOUSEHOLD IN SEVEN DISTRICTS OF NYANZA PROVINCE (DAK ACHANA) PROGRAM

*WATER, SANITATION AND EDUCATION FOR HEALTH (*WASEH) PROJECT

FINAL PROJECT DOCUMENTATION
October 2003- September 2009

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1.0 ACKNOWLEDGEMENT

This report, which is intended for use by CARE, donors and wash practitioners nationally and all over the world is a product of work that has been going on for five years. The DAK ACHANA M&EO provided leadership in determining the scope of the report, followed by compilation of reports from the district field officers for several months and a two day workshop to produce the first draft. Consultations within and without WASEH resulted in the final draft.

The following individuals, members of DAK ACHANA- WASEH project, contributed substantial part of their time and knowledge in providing information in the form of district draft and participating in the first draft review:

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We shall not forget the invaluable support by our Country Director- Stephen Gwynne-Vaughan, ACDP- Ms. Claudia Chang and the entire Dak Achana and CARE family.

2.0 EXECUTIVE SUMMARY

This report highlights all the aspects of programming of WASEH II project implemented from 2004 to 2009.

WASEH II project is one of the five components of Dak Achana program. Other components are; the improved agriculture for small holders in western Kenya (TASK), community savings mobilization (COSAMO), Food For Work(FFW) and HIV/LIFE project. The project covered six districts; Rachuonyo, Homabay, Nyando, Suba, Migori and Bondo of Nyanza province in western Kenya. The project was designed after a successful implementation of WASEH I from1999 to 2003. Implementation started in two districts of Rachuonyo and Nyando for two years and later spread to other four districts

WASEH in full means water, sanitation and education for health. The project was implemented from 2004 to March 2009. The program was designed for Nyanza province. This is because the region is semi arid and subject to severe drought. Most people obtain their drinking water from Lake Victoria, seasonal rivers, streams, and hand dug wells, sources which are all contaminated in one way or another. Women and children walked up to long distances each day to haul water, a task that took up to three hours. The incidences of diarrhea among children under five in this area was particularly high. Latrine coverage was estimated at below 30 percent. Only 50 percent of households in Homabay and 18 percent in Kuria had proper sanitary facilities. In Nyando district, heavy flooding further compounds the problem. High water table and floods make pit latrines a health hazard rather than a solution. Hygiene education was virtually non-existent. 60 percent of the population in rural Nyanza lacked safe drinking water and subsequently 47 percent less than five years old experience diarrhea. The project was targeting 12,896 individuals as direct beneficiaries.

WASEH addresses Dak Achana Strategic Objective (S02) of Sustainable improvement in the health security of vulnerable target population in six districts of Nyanza province. This was to be achieved by addressing the following intermediate results:

IR I: Improved capacity of local organizations to establish and sustainably manage water and sanitation facilities
IR 2: Improved household access and utilization of potable water
IR 3: Increased access and use of safe water system (SWS) products by target households
IR 4: Increased sanitation coverage, utilization and adoption of appropriate environmental and domestic hygiene practices.

This time the implementation of WASEH II is based on demand driven approach (DDA) by partnering with interested community based organizations or groups. A total of 160 groups were enrolled and signed an implementation agreement called partnership agreement detailing the role of each partner in the project. Each cluster of about 10 CBOs was being coordinated by a Central Management Committee. The project was implemented by building the capacity of the local institutions, sanitation infrastructure, water infrastructure development, safe water system intervention and hygiene promotion in community and schools.

Monitoring and evaluation activities were timely done with baseline survey followed by mid term evaluation. KAP surveys were conducted annually to assess behavior change especially on hygiene practices. Periodic site visits and assessments were conducted by project staffs and M&E department and results communicated to the project for improvement. Final evaluation was eventually done in November 2008 to check on the impact.

The project has fully achieved it objectives. There are 160 functional community groups, 16 CMCs, 2510 households accessing safe drinking water, 49% of targeted households adopting safe water system (KAP survey 2007), 723 tanks installed, 1460 household latrines constructed and 490 GHPs trained.

WASEH had to collaborate and network with other partners in view to attain more impact to the targeted communities. The main collaborators were the private sector- plastic tank supplies (politick and kentainers'), borehole drillers (hydro-water well and drilling services and spares), GOK line ministries particularly water, health, education, culture and social services, and provincial administration. Among the NGOS, PLAN was the main collaborator. Areas of collaboration included technical assistance and consultancy services

Some of the challenges during the implementation were, cholera outbreak in areas adjacent to project sites, challenges in maintenance of ferro cement tanks by community, occurrence of dry boreholes in some areas and the slow pace of resource mobilization by communities delayed implementation of water infrastructure development

However, there were also important lessons learned

- Partnership with the private sector yields additional benefits to program implementation. Open tender competition for water borehole drilling firms made CARE reduced costs for borehole drilling and purchase of plastic tanks. The discounts earned were ploughed back into buying additional water storage tanks for the project direct participants.
- Switch from construction of Ferro cement tanks to purchase of already made plastic tanks enhanced project implementation efficiency and effectiveness.
- The management of the water boreholes should be privatized for effective and efficient provision of water both as social and economic good.

The project had 3 vehicles of pick up type and 5 motorbikes. 5 technical staff and 2 support staff. The project budget was USD 2545988.

In conclusion I would say the project has met its objective and if possible be replicated to other areas with lessons learned incorporated.

3.0 PROJECT BACKGROUND

The Water, Sanitation and Education for Health (WASEH) project is one of the five components of the Sustainable Household Security for Vulnerable Households in Seven Districts of Nyanza Province (DAK ACHANA) Program. The project was implemented from 2004 to September 2009 and was implemented in five of the seven districts of the province. Nyanza Province was targeted because the region is semi arid and subject to severe drought. Most people obtain their drinking water from Lake Victoria, seasonal rivers and streams, and hand dug wells, sources, which are all unsafe water sources. Within the districts targeted by WASEH, only 38 percent of the households in Migori and 30 percent in Homa bay had access to potable water. Women and children walked up to six miles each day to haul water, a task that took up to three hours. During dry season, some villagers spent up to four hours per day collecting water. Water is not only contaminated at the source but also from the way it is transported and stored. Few households boiled their water. The incidences of diarrhea among children under five in this area was particularly high. Latrine coverage was estimated at below 30 percent. Only 50 percent of households in Homa bay and 18 percent in Kuria had proper sanitary facilities. In Nyando District, heavy flooding further compounds the problem. High water table and floods make pit latrines a health hazard rather than a solution. Hygiene education is virtually non-existent. 60 percent of the population in rural Nyanza lacked safe drinking water and subsequently 47 percent less than five years old experience diarrhea.

4.0 PROJECT DESIGN

4.1 Dak Achana Program Goal

The overall goal of the program was to improve, in a sustainable manner, the food and livelihood security of vulnerable households in seven districts of Nyanza in FY 2004- 2008. The WASEH Component addressed the Dak Achana Strategic Objective (S02) - Sustainable improvement in the health security of vulnerable target population in five districts of Nyanza Province. The targeted districts were Suba, Migori, Nyando, Homabay and, Rachuonyo. Following the successful development of a proposal and funding of water, hygiene and sanitation education for Nyando District, it was decided that the component be relocated to Bondo District

The following intermediate results were addressed by the component:

IR I: Improved capacity of local organizations to establish and sustainably manage water and sanitation facilities
IR 2: Improved household access and utilization of potable water
IR 3: Increased access and use of safe water system (SWS) products by target households
IR 4: Increased sanitation coverage, utilization and adoption of appropriate environmental and domestic hygiene practices.

4.2. WASEH project strategy

The WASEH Component employed a demand driven approach (DRA) as its main implementation strategy. It was implemented through forty groups in each of the four districts,

each group having a membership of about twenty people. In line with the GOK administrative units, WASEH facilitated the formation of Central Management Committees (CMCs) to oversee the activities of the groups at the Locational level. CARE helped the CMCs in mobilizing and appraisal of the groups which had applied for involvement into the component's activities.

Depending on the geo-physical conditions and quality of water sources, technology used was specifically tailored to address each district's water and sanitation needs. This included shallow wells, boreholes, spring protection, gravity and/or piped water schemes and rain water harvesting systems.

Where shallow wells were viable, CARE facilitated selected groups in the construction, management, operation and maintenance of the wells. CARE also encouraged private ownership of the wells for sustainability.

Upon successful application by the groups, the project conducted a participatory situational analysis which culminated into a development of a community action plan on water, sanitation and hygiene options. The groups were to start a revolving fund which would boost their contribution towards project activities. WASEH groups cost shared in the project implementation costs.

4.3 WASEH II implementation methodology

Local institutional capacity building: community entry process was done by first sensitizing the community leaders on project activities. The community based groups were encouraged to apply for the project intervention. A criterion for selection was developed with the project staff in consultation with the GOK department of social services. A maximum of 40 groups were selected in each district targeted. Each group nominated 2 representatives to the central management committee (CMC). The selected groups were then given a in-depth orientation on the project which was followed by a participatory situational analysis using participatory tools such as social and resource mapping, transect walks, focused group discussion, problem and decision making matrix, gender task analysis and community action planning among others. After the development of a community action plan a partnership contract was signed and stipulates the roles and responsibility of the group and WASEH project. The project staff provided training on project management for all the participating community groups and the central management committees.

Group hygiene promoters and latrine and tank artisans were also trained and the groups were to provide a token to the resource persons. The groups were also trained on participatory monitoring and evaluation and conducted quarterly review and planning meetings every 3 months.

Sanitation infrastructure development: the selected groups mobilized locally available resources particularly river sand for slab and block manufacture. The project provided cement, reinforcement bars or weld mesh and ballast for the same. The groups in turn manufactured the latrine component using the trained artisan and availed them to the group members at a subsidized prize for cost recovery. The project provided only materials enough for 10 latrines per

group. The cost recovered was supposed to propagate latrine to the remaining group members. The household owner would pay for pit digging and lining and superstructure construction. Inventory of complete latrine was kept by the group committee and the project field staff who in turn feeds it to the project and programme report. The products also were available to non group members but at a lower cost but higher than the group subsidy. The superstructure form was optional provided that it provided for privacy and would also control flies.

Water infrastructure development: Choice of technology depended on the financial capability of the group, water potentiality and GOK preference. Groups that opted for boreholes contributed Kshs.100, 000 in cash and kind. Others who chose on roof catchment tanks would provide for a quarter of the cost of acquiring the tank and the installation costs. They were to provide for the tap, gutters. For springs the groups provided for casual labor and hardcore which could amount to 20 percent of the total costs. Groups where shallow wells were rehabilitated contributed up to 40 percent of the rehabilitation costs. Most of the rehabilitation of the shallow wells involved pump repair, installation, well lining and apron construction. Local artisans were trained on ferro cement tank construction in Rachuonyo and plastic tanks installation in other districts.

The piped water scheme was implemented in South West Sakwa Location of Bondo District. The beneficiary community contributed both in cash and in kind. In kind contributions included the land parcels on which the major construction works were done and human unskilled labor employed in digging the pipelines.

Water treatment at the point of use: the WASEH Component adopted the private sector model in promoting the safe water treatment by establishing commercial outlets for the supply of chlorine (water guard). Local stockiest were encouraged to stock water guard within the project sites. Socio marketing techniques such training of group management committees, group hygiene promoters and latrine and tank artisans were adopted. Road shows, folk media, drama, songs and puppets were used to raise the adoption level especially in areas that had highly contaminated water sources. Local potters were trained to manufacture the spigoted pots for water storage but did no pick up well due to lack of good soil for moulding the pots and the component eventually resorted to plastic storage containers with taps manufactured by private firms.

Hygiene promotion: Each group identified their group health promoters (GHP), training needs assessment was conducted and a module for their training was developed borrowing a lot from the PHAST methodology. The GHPs later promoted hygiene among group members. In between the implementation period, reviews were held with project staff to review progress. The school heads and club patrons were trained on hygiene promotion using the child to child methodology that later facilitated hygiene promotion in schools. Every year a school competition festival was held in each district to show case on health promotion.

Policy and advocacy: Ministries of environment and water policy requirements were adhered to during the implementation of the programme. Approvals of all the documents were sought from relevant government department (see appendix).

4.4 Expected project outcome

- By the year 2008, 16 CMCs and 160 groups fully established and sustainably managing water and sanitation activities in four districts.
- By the year 2008, 2480 targeted households in four districts will have access to potable water.
- By the year 2008, 1240 targeted households have access to proper sanitation and adopt appropriate environmental and domestic hygiene practices
- By the year 2008, 60% of targeted households have access to and correctly using Safe Water System products in 7 districts.

5.0 IMPLEMENTATION 0F PR0JECT ACTIVITIES.

This section describes the key project activities and the results obtained thereof by WASEH as at 1st march 2009. A summary of this has been captured in the program performance indicator tracking table.

5.1 Local Institutional Capacity Building

5.1.1 GOK protocol

This is the first part of the community entry process. Here the project is explained to the leaders and evaluate if it is appropriate for the target group. Leaders also explain the role they would play during the project implementation and sustainability. Courtesy calls and orientation workshops were held for the DCs, DOs, DDOs, MOH, MCSSS, MOW, chiefs, assistant chiefs, opinion leaders, faith based organizations, community based organizations in Rachuonyo, Nyando, Homabay, Suba, Migori and Bondo districts.

5.1.2 Targeting

The decision on which administrative locations of a district to target was made by the DWSDC. A number of factors were considered such poverty levels, water and sanitation situation, feasibility of the technology, partners in the region, district development plans and the project team preferences especially on synergy of Dak Achana projects among other things. The project was zoned as follows:

Table 1: Project Target Administrative areas and population

District	Division	Location	Population	Households
Rachuonyo	Kasipul	Kodera, Konuonga, Kokech	28239	1177
Homa bay	Riana, Rangwe, Kobama	South Kabuoch, Central Kanyadoto, Kochia Central	32125	7612
Nyando	Muhoroni	Chemelil and Nandi south	22450	4220
Migori	Karungu	East Karungu, West Karungu, Central and South East Karungu	28504	6271
Suba	Mbita	Rusinga East and West	21050	4805
Bondo	Maranda	Southwest Sakwa		

5.1.3 Awareness creation

This was done by holding Locational barazas and courtesy calls to relevant ministries to create demand for the project. The field staff also attended assistant chiefs' barazas to explain the project. Advertisements for call of application by groups were also placed in strategic places.

It resulted in overwhelming applications by interested groups. We only selected on 160 to work with in the six districts.

5.1.4 Identification of groups

The groups were identified after a successful application which was done through desk appraisal and field appraisal. 160 groups were identified in the six districts. (See appendix). During the field appraisals we were surprised that some of the groups that applied and were rated well on the desk did not exist on the ground.

5.1.5 Group Leaders orientation

An orientation workshop for the selected groups was conducted for the CBOs in all the districts. This was to give them an insight of the project and its intervention strategies the orientations were done as follows:

Table 2: Time table used for group leaders orientation

Districts	**Orientation dates**	**Venue**
Rachuonyo	23rd to 25th June 2004	Konuonga chiefs camp
Homabay		Pala chiefs camp
Nyando	4th -6th June 04	Ahero multi purpose
Migori	3rd Dec 2005	Bondo kosiemo pri school
Suba	11th 0ct 2005	Tom Mboya secondary school
Bondo	12th -16th July 2006	Switel hotel

5.1.6 Participatory Situational Analysis

The selected groups were then given an in-depth orientation of the project which was followed by a participatory situational analysis using participatory tools such as social and resource mapping, transect walks, focused group discussion, problem and decision making matrix, gender task analysis and community action planning among others. Here is where cost sharing of costs was done. Borehole groups would contribute KShs.100, 000 in cash and in kind. In sanitation, the community was to provide sand while care provided the rest. The tank beneficiaries were also identified at this stage though the tanks would be shared in terms of water use.

Results of the situation analysis showed that latrine coverage was as low as 20 percent in Rachuonyo, 25 percent in Migori, 20 percent in Homabay, and 21 percent in Suba and 50 percent in Bondo and 5 percent in Nyando. Water treatment was as follows an average of 20 percent of the entire district treated the water with water guard while 10 percent boiled.

5.1.6 Signing of the partnership agreement

This defined how the partners were to relate during the programme implementation. All the 160 groups signed the agreements. In the initial DAP II proposal it was known as MOU but this was changed due to the stigmatization of the term in the country owing to the historical background of MOU in Kenyan politics which was never honored.

5.1.7 Capacity building for groups

The pivotal point of the project was on building the capacity of the group's project management skills with an aim to empowering them to manage the project and ensure sustainability. In fact, capacity building was the fulcrum through which WASEH success revolved This was done mainly through training of groups and the CMCs as well as exposure through inter district cross visits

5.2 Sanitation infrastructure development

This was done by the groups as mentioned in the methodology above. Latrine progress per district is as follows:

Table 3: Number of latrines constructed per district

District	No. of latrines constructed
Rachuonyo	601
Homabay	204
Migori	170
Suba	185
Nyando	1015

Latrine coverage in the project area stood at 30 percent by the end of the program.

5.2.1 Sanitation training

The project staff trained 2 latrine artisans per group on slab and block manufacture and the general latrine construction. They were also taken through a theoretical session on the importance of environmental sanitation particularly on the spread and prevention of preventable diseases. The individual households would pay the artisans for their services. A total of 280 group artisans were trained within the six districts.

5.3 Water infrastructure development

5.3.1 Feasibility studies on ground water potential in project sites

Feasibility studies on ground water potential in Homa bay and Rachuonyo districts were done by the experts from the water resource management authority in Homa bay. The potentials were good in both the districts with the deepest well going up to 120 meters and the shallow one up to 80metres. A total of 20 sites were surveyed. Some difficult areas were resurveyed at no cost. The community paid for the services.

5.3.2 Environmental impact assessment (EIA)

The Kenya Government policy on all new Projects, Programs or activities requires that an environmental impact assessment is carried out at the planning stages of the proposed undertaking to ensure that significant impacts on the environment are taken into consideration during the construction, operation and maintenance and decommissioning of the facility. The scope of the Environmental Impact Assessment in WASEH therefore covered:

- The baseline environmental conditions of the project area,
- Description of the proposed boreholes project,
- Provisions of the relevant environmental laws,
- Identification and discussion of any adverse impacts to the environment anticipated from the proposed boreholes project,
- Appropriate mitigation measures,
- Provision of an environmental management and monitoring plan outline

All the permits were obtained for the borehole and southwest Sakwa water projects.

5.3.3 Drilling of the boreholes

The drilling companies were contracted to drill the boreholes by CARE. The first ten were drilled in 2006 in Rachuonyo and the second batch in Homa bay was drilled in 2007 Well Companies. The initial ten for Rachuonyo District were done by drilling services and spares while the second batch of 10 were done by hydro water well and DSS companies. Out of the 20 drilled boreholes 16 are functional which represents 80 percent success.

5.3.4 Construction of the South West Sakwa piped water scheme

Raw water will be pumped from the Lake Victoria at Utonga bay, treated, stored and gravitated to users within South West Sakwa location in Maranda district of Bondo district. It is expected to serve a total of 8,500 persons resident in the location in the initial stages. A maximum of 35 cubic meters of water will be abstracted per hour. The project has the following components:

Intake works:

Intake suction line consisting of 4 inch GI pipes 12 meters into the lake.
Pump house 7m by 5m housing 1 generator set and 1 low lift and 1 high lift centrifugal electric pumps.
1 No. 100 cubic meter masonry clear water storage tank
1 No Staff house
Pit latrine and bath room
Store for chlorine storage

Rising mains:

Delivers water from the pump house to the main storage tank at Got Rateng'. Consist of 6 inch GI pipes laid for a distance of 1 km. it fitted with a master meter, sluice valve, non return valves, air and wash out valves at the appropriate locations. The main storage tank at got Rateng' has a capacity of 225 Cubic meters.

Distribution mains:

Laid from Got Rateng' to Kamenga booster station where a pumping unit is being put up to pump the water further to a 100 cubic meter water storage tank at Ndhere hills, some 11 km from the intake. The distribution mains consists of 6 inches GI and uPVC pipes, 3 and 4 inches uPVC pipes while the secondary rising mains from Kamenga to Ndhere consists of 4 inches high pressure uPVC pipes. There exists a separate rising main in 2 inches high pressure uPVC pipes laid to Goma to feed a high rise 20 cubic meter storage tank to serve Goma and Riwa villages.

Distribution service lines

Consists of uPVC 1, 1.5 and 2 inches pressure pipes serving the communities within the location. The total pipe network is 12 km.

Water kiosks, Communal stand pipes and Cattle toughs:

4 No. water kiosks will be constructed at the major market centers while a total of 12 communal stand pipes will be constructed at suitable locations to serve the communities.

Community organization and structure:

The project will be managed by Central Management Committee derived from 16 village Management Committees formed from each of the 16 administrative villages in South West Sakwa location. The CMC will be assisted by a Board of Trustees. The CMC is in the process of being registered with the registrar of societies to gain legal status. The CMC will then apply to the Lake Victoria South Water Services Board for water service provision before getting a license to operate as a Water Service Provider (WSP) in the location.

5.3.5 Rehabilitation of shallow wells

The project also rehabilitated a few shallow wells in a bid to increase the safe water coverage. The two wells that were rehabilitated are Kochieno in kabuoch in Homa bay District and Kokoko in Konuonga Location of Rachuonyo District.

5.3.6 Protection of the spring

The project protected two springs in South Kabuoch Location in Riana Division Homa bay District which are expected to serve about 100 44 households. The groups contributed unskilled labor and hardcore for construction. Both have a committee that managed the protected springs. They have also been trained on project management and hygiene.

5.3.7 Training artisan on rain water harvesting

Two artisans per group for the groups that were implementing rain water harvesting. They were taken through a 5 day residential workshop in theory and practical aspects of Ferro cement tank construction and installation of plastic containers. Some of the topics were, reasons for rain water harvesting, methods of rain water harvesting techniques and process of Ferro - cement tank construction and preparation of bill of quantity for the $10m^{3.}$ A total of 133 artisans were trained in the project area.

5.3.8 Pump attendant trainings

Trainings were conducted for borehole pump attendants to enable them operate and manage the water pumping system. They were trained on the operation and maintenance of the Afridev hand pump; pump parts identification, installation, operation and trouble shooting and remedies. Procurement of spare parts was also discussed. A list of local spare stockiest was given to the trainees; example is Mitha & Mitha Company, Davis and Shirtlift in Kisumu, Hartland and Prescot in Homabay and Gudka in Kisii. A total of 30 pump attendants were trained in Homa bay and Rachuonyo districts.

5.3.9 Rain water harvesting using the roof catchment tanks

The number of Ferro cement tanks constructed in Rachuonyo is 165. A total of 10 plastic tanks in Rachuonyo, 115 plastic tanks in Migori, 115 in Suba and 115 in Homa bay were procured and delivered to beneficiaries. All tanks have all been installed and in use by the beneficiaries.

The initial design in the proposal was Ferro-cement tanks but this was later changed to plastic due technicalities involved in ferro-cement construction e.g. communities failed to water the tanks well leading to poor curing. On the other hand plastic tanks were easy to handle and were highly demanded by the community. The technology has been well received by the community because the water quality is good, sense of ownership is high and works well in areas where other technologies cannot work or expensive. The impact is also instant with very high replication potential as has been witnessed in the project areas. Also change from the initial 10,000liter tanks to 5,000liter tanks has enabled more group members to benefit because of the cost implications.

5.3.10 Well commissioning

All the drilled boreholes were commissioned. It is the day the facilities are handed over officially to the partnering group. GOK and other stakeholders in the water sector are invited to give advice on the proper management of the boreholes and need for scaling up. During this time all the documents as pertains the construction and hand over of the borehole is provided to the concerned group. 13 boreholes have been commissioned to date.

5.4 Treatment of water at the point of use

Here there were majorly three activities namely stockiest establishment, social marketing and training of partners on safe water system. This activity intends to promote the household treatment of water using water guard especially in areas where the quality of water is suspect. The current adoption rate is 49 percent according to 2007 KAP survey.

5.4.1 SWS products Stockiest establishment

A total 6 in Rachuonyo, 3 in kabuoch, 3 in Suba and 6 in Migori as commercial outlets for water guard. The community has been buying the plastic water storage vessels through our linkage with Polytanks Company at a subsidized prize.

5.4.2 Social marketing

This is the marketing strategy adopted to promote the adoption of the safe water system by our targeted households. 20 socio marketing campaigns have been held to date. It involves road shows, village drama, folk media and child to child activities.

5.4.3 Partner training on SWS

A total 16 other partners not working directly with WASEH have been trained with project staff with the view of scaling up the adoption of safe water system

5.5 Hygiene promotion

Hygiene promotion was done by volunteer hygiene promoters and school children using CTC approach. This had a marked impact especially during the cholera outbreak where Suba was the epicenter yet no cases were reported in the project areas. This was an indication that health education is key to prevention of water and sanitation related illnesses. It also underscores the role played by the trained community resource persons such as group health promoters by the project. In Karungu, this was also the case with no cases being reported in areas covered by the project and its partners trained on hygiene and safe water system intervention. Even the GOK ministry of health recognized this and applauded the role played by the project.

5.5.1 Group hygiene promoter training

These were organized residentially for 3 days. Groups availed an average of between 3-5) GHPS per group. They were trained on hygiene issues after training needs assessment was done by the field staff together with the group members. They were trained on food hygiene, environmental hygiene and sanitation, hand washing, water treatment and handling and general personal hygiene. Disease transmission route, especially poor sanitation and personal hygiene was also highlighted. Management of the diarrhea diseases was also trained on. The total number of hygiene promoters trained was 490 and distributed as follows. The government also trained other CHW on the same following the launch of community strategy. The trained GHPs participated in cholera disaster mitigation successfully in Suba and Migori districts.

6.0 PROJECT ACHIEVEMENTS

The following table summarizes the achievements made by the project to date:

LOA	ACHIEVEMENTS						TOTAL
	Rachuonyo	**Homabay**	**Suba**	**Migori**	**Bondo**	**Nyando**	
Functional CMCs	3	3	4	4	1	1	16
Groups effectively managing water and sanitation activities	40	40	40	40	9	5	174
Households with access to portable water.	1295	905	345	546	140	00	2510
% household adopting safe water systems	51	30	70%	63%	00	00	49% Average
New water points operational (bore holes)	10	9	00	00	1	00	19
No of tanks supplied	165	166	178	182	00	18	523
No. of latrines constructed	601	204	184	170		145	1379
No. of GHPs trained and active	166	111	109	79	00	25	490

7.0 COLLABORATION/PARTNERSHIP/LINKAGES

WASEH had to collaborate and network with other partners in a view to achieve more impact to the targeted communities. The main collaborators were the private sector- plastic tank supplies (Polytank and kentainers), borehole drillers (hydro-water well and drilling services and spares), material suppliers, civil and building contractors,GOK line ministries particularly water, health, environment and natural resources, education, culture and social services, and provincial administration. Among the NGOS, PLAN was the main collaborator. Earth water drilling consultancy firm was also among the collaborators. Areas of collaboration included:

- Geo- survey for the boreholes.
- Environmental Impact Assessments (EIA)
- Consultancy services for the supervision of boreholes
- Drilling of boreholes
- Group capacity building
- Staff training especially plan on community total led sanitation.
- Mobilization
- Participatory monitoring and evaluation.
- Follow ups on latrine constructions.
- Construction of piped water scheme.

8.0 CHALLENGES

- The capacity of the groups we envisaged to work with was very low and this made it difficult to implement some of the cost recovery aspects of sanitation and commercialization of boreholes and piped water schemes. Contribution from the group towards well sinking and piped water supply construction was difficult since the capacities of these CBOs and communities were low
- Cholera out break in areas adjacent to the project sites had affected project implementation because we had to stop and mitigate.
- Construction of a large number of Ferro cement tanks compromises on quality. It requires enough staffing and very skilled artisans.
- Group approach is fairly easy approach but appropriate strategies should be employed to ensure trickling down of the project benefits to the rest of the community. Most often the very poor and destitutes in the community that are targeted by most development agencies do not belong to groups, a blend of group and community focused approaches should be designed to reach these needy category of people.

9.0 RESOURCE INPUT

9.1 *Human Resources*

Staff hiring and placement in WASEH project was varied over time. At the beginning in 2004, 6 staffs were hired. From then some have been recruited some have left. At the present the programme is closing with 4 technical staff and two support staff. A water engineer and a field officer were hired for Bondo district to implement the southwest Sakwa piped water scheme.2 field officers 1 driver and 1 office assistant are based in southern Nyanza (in Homa Bay)

9.1.1 Transport

The project has 3 vehicles; KAT 983Q, KAL972L, KAM 521T. KAL 972 has been earmarked for sale. The project owns the following motorcycles to date:

YAMAHA KAL744L - MARGRET LESSO
YAMAHA KAN754L- MESHACK AJODE.
YAMAHA KAL 745 - ALLAN ODERA
YAMAHA KAM 747- PHILLIP OJOWI
YAMAHA KAJ 703J - KEN OGADA
YAMAHA KAM 734 - UNATTACHED (KISUMU COMPOUND)

All the bikes are in good order except KAM 734.

9.1.2 The Project budget

The budget approved by the donor was USD 2545980

10.0 LESSONS LEARNED

- Partnership with the private sector yields additional benefits to program implementation. Open tender competition for water borehole drilling firms made CARE reduced costs for borehole drilling and purchase of plastic tanks. The discounts earned were ploughed back into buying additional water storage tanks for the project direct participants.
- Flexibility in approach ensures effectiveness and efficiency. Switch from construction of Ferro cement tanks to purchase of already made plastic tanks enhanced project implementation efficiency and effectiveness.
- The management of the water boreholes should be privatized for effective and efficient provision of water both as social and economic good. Central Management Committees that mobilizes the community to participate in the construction of water boreholes are not the ideal structures to run the water points after commissioning.

11.0 CONCLUSIONS

Based on the achievement made the project has met its objective of sustainable improvement in health security of the vulnerable target communities.

12.0 RECCOMMMENDATIONS FOR FUTURE PROGRAMMING

1. Rain water harvesting interventions are sustainable technologies for safe drinking water solution. Scale up is recommended through community based groups.

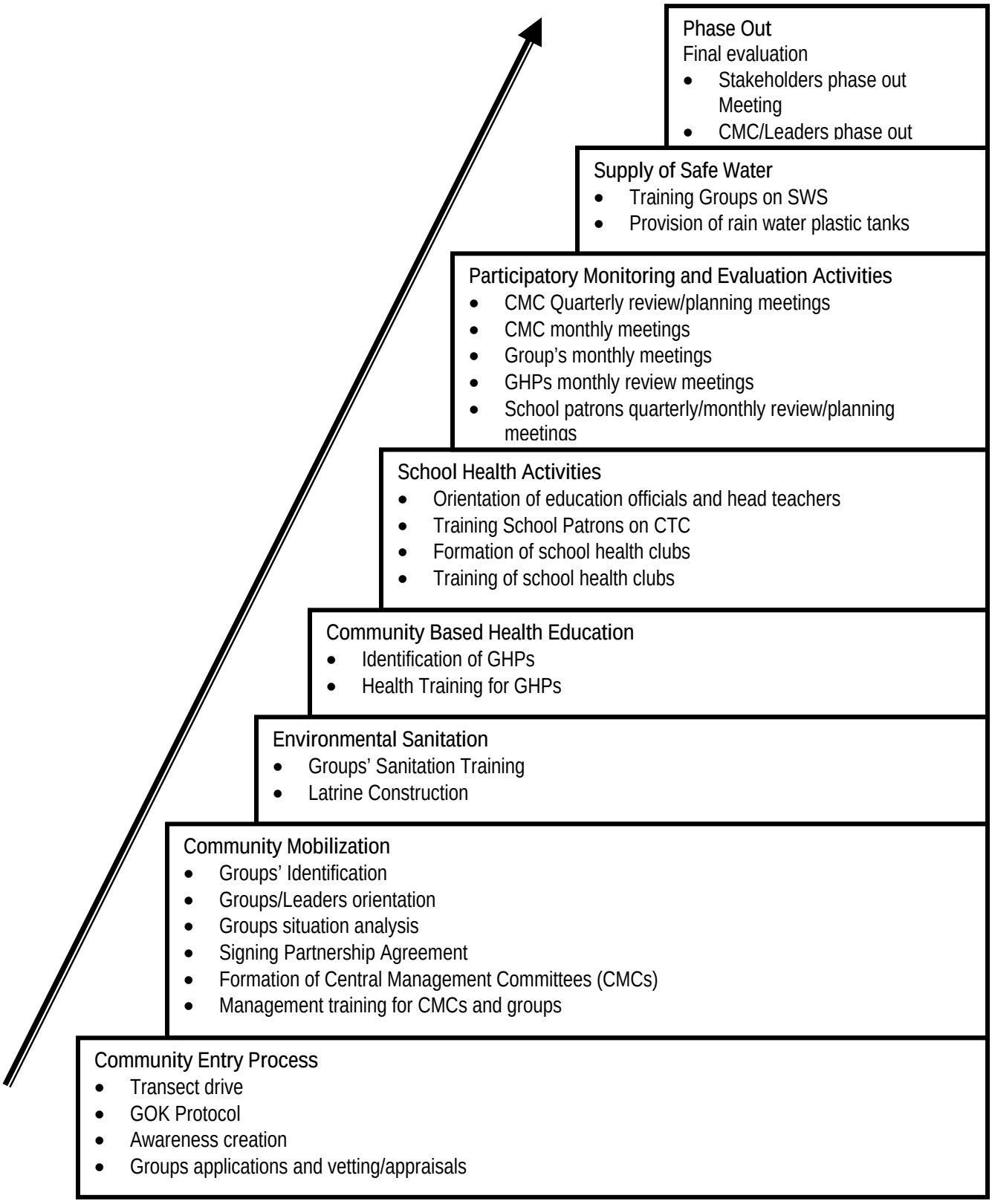
2. For sustainability of boreholes complete privatization is recommended from the beginning. The beneficiary community should be capacity built on reticulation so as to generate funds from the sale of water to the local community.

3. Areas where shallow wells are viable, they should be given preference as they are economical in terms of beneficiaries reached and initial investment capital. Operation and maintenance is also manageable by the self help groups.

4. Concentration in a manageable region as opposed to the wide spread in large areas which creates a lot of demand on logistics.

5. Demand responsive approach to WATSAN services is the only viable way of ensuring sustainability of the project benefits; however, a lot of awareness should be done to create demand for sanitation. In many parts of Nyanza, latrine construction is still not apriority to many households

ANNEX 1: WASEH PROGAMMING LADDER 2004 -MARCH 2009.


Phase Out
Final evaluation
• Stakeholders phase out Meeting
• CMC/Leaders phase out
Supply of Safe Water
• Training Groups on SWS
• Provision of rain water plastic tanks
Participatory Monitoring and Evaluation Activities
• CMC Quarterly review/planning meetings
• CMC monthly meetings
• Group's monthly meetings
• GHPs monthly review meetings
• School patrons quarterly/monthly review/planning meetings
School Health Activities
• Orientation of education officials and head teachers
• Training School Patrons on CTC
• Formation of school health clubs
• Training of school health clubs
Community Based Health Education
• Identification of GHPs
• Health Training for GHPs
Environmental Sanitation
• Groups' Sanitation Training
• Latrine Construction
Community Mobilization
• Groups' Identification
• Groups/Leaders orientation
• Groups situation analysis
• Signing Partnership Agreement
• Formation of Central Management Committees (CMCs)
• Management training for CMCs and groups
Community Entry Process
• Transect drive
• GOK Protocol
• Awareness creation
• Groups applications and vetting/appraisals