

Georgia Flood Response Programme

**Khulo District,
Republic of Georgia**
April – December 2005

[photo deleted]

Final Version

**Evaluation Report
January 2006**

Authors:

Karen Arakelyan, Director STC, Yerevan, Republic of Armenia
Tim Forster, HSP – Capacity Builder, Humanitarian Department, OGB
Ghazi Kelani, Public Health Engineer, Oxfam Jerusalem

Executive Summary

In the last week of April 2005, a combination of torrential rains and the melting of snow caused heavy flooding in the mountainous regions of the Republic of Georgia. The rains also coincided with the release of water from two dams by the authorities, resulting in raised water levels in several rivers, exacerbating the situation further. Although there were no casualties, the floods caused massive landslides and mudflows, leading to damage and loss of agricultural land; homes; livestock; and water drainage systems. Roads and bridges were swept away, isolating many communities in mountainous areas. The worst affected districts were identified as being Mestia, Oni, Ambrolauri, Tsagehri, Lentekhi and Khulo. Since the collapse of the former Soviet Union, these regions have suffered economically, resulting in; social infrastructure being poorly maintained; poor quality public services; and the loss of vegetation cover through deforestation. Livelihoods were badly affected by the floods, reducing people's overall resiliency. Many water supply systems were destroyed, as were surface drainage systems in some towns resulting in more flooding and contaminated water supplies. 321 homes were also destroyed, and farmlands flooded, disrupting planting and the subsequent agricultural cycles. Livestock was also lost.

In response to the floods, the government worked through their regional institutions to assist people cut-off in remote areas, the government publicly pledging to support those affected, through compensation, humanitarian aid and technical assistance. A number of organisations, led by UNDP Disaster Management Team (DMT) carried out assessments to identify immediate needs with various agencies launching appeals; food aid (WFP); medicine and immunization (UMCOR and UNICEF); agriculture and livestock (ACH); and water and sanitation (IFRC and GRCS). Oxfam Georgia, as a member of DMT, identified gaps in water and sanitation, education and shelter. Disaster mitigation was also identified as being of concern.

Based on initial assessment by an Oxfam team and the Red Cross, Khulo District was prioritised. The three key areas for intervention were identified as; to improve access to potable water supplies; public health promotion; and to provide mitigation, preparedness and disaster response training for communities and institutions, living in disaster prone areas. Based on the initial needs assessment; the decision was taken to rehabilitate the water supply system in Khulo District, with GRCS as a partner. The programme aim was

“To relieve distress and suffering by addressing water and sanitation needs of the flood-affected population of 6,400 in Khulo, Danagleba, Dagnavilebi, Okurashvilebi and Vashlovan communities in Adjara Region of Western Georgia”.

Oxfam GB approved a budget of GBP 99, 435 for a period of 7-months, starting in June 2005. An evaluation of this programme was undertaken in mid-December 2005. The main findings of the evaluation were:

1. Improved access to an ample quantity of potable water for an estimated 7,500 people in target communities, through repairs to water storage, water treatment and water conveyance systems. An estimated 1,500 households benefited from the rehabilitated water supply. Prior to the intervention, only 750 households were connected, meaning 3,250 new people are now receiving a stable water supply. Now an estimated 150 l/p is provided daily, 24 h/d. This compares with 4 hours connection per day, every third day prior to the intervention. The quality of the water is perceived by community to have improved since the intervention, but this was difficult to quantify, given the extremely old equipment available at water-testing laboratory in Khulo. It was also noted that some household connections were made upstream of the treatment plant, meaning such people will definitely not benefit from treated water.
2. Improved personal and communal hygiene for an unknown number of people through an additional 780 m of sewerage collection network, along with 38 collectors and manholes. According to the contractor, 70% of the target group (4,480 people) are

now connected to the sewerage network; however, it was not possible to verify this figure. According to data from 2005, for Khulo District, obtained by OGB HPO from the public health department, there were 156 cases of water-borne diseases in 2005. Of these, 150 cases were registered up to end October 2005. In November and December, there were only 6 registered cases for both months.

3. An unspecified number of people also benefited from public health promotion activities, these activities were still on going at the time of the evaluation. Approximately 200 members of the community will benefit directly from the workshops, while 2,000 others will benefit from two booklets. However, it will be difficult to measure the impact of these activities. The 20 households that should have benefited from family latrine structures did not, as this activity was replaced by a communal public toilet at the District Administrative centre (currently under repair). The number of people benefiting from the communal toilet is unknown, and the impact on the population is difficult to quantify.
4. The Khulo District authority departments participated actively in the programme, contributing GEL 280,000 to rehabilitate the water system. Perhaps this implementation role is greater than would normally be expected, given the selected contractor, Poni Ltd., is also the head of communal works department! The community's role was limited to village heads attending District Council meetings, and approx. 200 people participating in the PHP workshops. On top of this, the contractor (Poni Ltd.) employed 53 specialist staff and daily labourers on a permanent basis for the duration of the technical works.

The main conclusions of the evaluation were that the type of rehabilitation project supported was appropriate in responding to post-flood needs. Working through partners and key stakeholders was appropriate, although both community participation and the role of women need to be strengthened in future. Overall, it has been difficult to measure the true impact of the activities on beneficiaries, as the initial indicators selected for the logical framework were weak, and opportunities were missed to review the initial planning. As a consequence, it was difficult to monitor progress of the programme, as much of the monitoring focussed on verifying progress on the technical work rather than impact monitoring. Opportunities were also missed to introduce specialised equipment such as the DelAgua kit, which would have benefited the relevant authorities and also provided better quality monitoring data. Opportunities were missed to undertake emergency water supply and the hospital early on in the response. A rehabilitated communal toilet replaced 20 family latrines planned in the early stages of the programme, measuring the impact of this action on people's health was not possible.

Coordination with key stakeholders, partners and participation in the DMT, appears to have been a strong point of the programme. Cooperation with local government was also good. Around 50% of the total technical works budget came from government. However, the communities themselves must be included more in the planning process. Accountability to beneficiaries should also be improved. As a partner organisation, GRCS is ideally suited to conducting PHP activities using a community-based approach, although it would be worth investing in coordination, planning and training at a Tbilisi level. For future responses, HR resources could be managed more effectively, and the livelihood "Cash-for-Work" element of such programmes could be planned and monitored more effectively. Overall, the PHP activities started late in the project cycle, and could almost be considered a "add on" to the technical work. Although participative approaches were planned, the approach taken was felt to be "top down" and the quality of the educational materials could have been more suited to literacy levels in Khulo. Only 4% of the OGB budget was used for PHP work, in future, this proportion should be increased. Again, gender aspects of such programmes need to be strengthened; more female staff members should be employed; and women should be encouraged to participate more actively in all stages of the programme.

Lastly, the community and the authorities in Khulo District were very grateful to both OGB and GRCS for the support given to Khulo District. The majority of the people interviewed during the evaluation claimed that both water quantity and quality had improved because of the programme, but it was difficult to show this using quantitative measures.

For the future, it is recommended that both Oxfam and GRCS/IFRC undertake a joint participatory workshop of both the Oni and Khulo programmes, as this would provide “lessons learnt” for both organisations. For future emergency responses, programmes should also respond to short-term emergency needs as well as looking at the more long-term rehabilitation needs. There should be a better balance between software and hardware, and gender should be included in the log frame. Monitoring should look at impact on beneficiaries, mixing both quantitative and qualitative indicators. Monitoring should not mean checking progress on technical works. Cash-for-work is an ideal tool for boosting the livelihood component of a programme. Staff should develop a better understanding of; beneficiary selection; the role of women; reporting; and monitoring of cash-for-work activities.

In terms of strengthening disaster preparedness response capacity for the future, OGB and GRCS should consider different training options, including; SPHERE; disaster management; programme management and project cycle; monitoring and evaluation; Training of Trainers; participatory methods; and emergency watsan response. In future, community participation and gender should be strengthened; in particular better standards and indicators should be selected to measure this “*participation*”. Also, it would be worthwhile for OGB to invest in a number of books and manuals on participatory approaches. Oxfam staff in Georgia should have more in-depth knowledge of OGB emergency procedures and practice, as well as having good knowledge of OGB emergency equipment. As a preparedness exercise, OGB and GRCS should conduct a SWOT analysis of Red Cross branches in Georgia, and create a database of skills available in various regions. Other potential partners should also be included in such a database. Similarly, a regional database should be created for partners and partner skills.

Glossary of Acronyms

ACF	ACCION Contra el HAMBRE
ADRA	Adventist Development & Relief Agency International
CDC	Centre for Disease Control
CHF	Community Habitat and Finance
CPM	Country Programme Manager
DMT	Disaster Management Team
EC	European Commission
ESCSS	Emergency Situations and Civil Safety Service
FACT	Field Assessment and Coordination Team
FAO	Food and Agriculture Organisation
GRC	Society of the Georgian Red Cross
IFRC	International Federation of the Red Cross and Red Crescent Societies
NGO	Non-Governmental Organization
OFDA	USAID/Disaster Assistance
TACIS	Technical Assistance for the Commonwealth of Independent States
UNICEF	United Nations Children Fund
UNOCHA	United Nations Office for the Coordination of Humanitarian Assistance
UNDP	United Nations Development Programme
UMCOR	United Methodist Committee on Relief
WFP	World Food Programme
WV	World Vision

Table of Contents

1.0	Background	Page	1
1.1	Context, poverty analysis and objectives		1
1.2	Regions and people affected by the floods		1
1.3	Analysis of context of vulnerability and coping mechanisms		1
1.4	The Impact of floods on the livelihoods of people		1
1.5	The policy environment as it affects the project		2
1.6	Programme overview		2
2.0	Overview of the Evaluation		4
2.1	Purpose and objective of the evaluation		4
2.2	Evaluation methodology and timetable		4
2.3	Team composition and budget		4
2.4	Evaluation outcome		4
2.5	Constraints encountered during the evaluation		5
3.0	Impact of the Response		6
3.1	Project purpose		6
3.2	Planned beneficiaries		6
3.3	Actual verses planned logical framework outputs		6
3.4	Observations on results obtained		8
3.5	Impact on the lives of men, women and children in Khulo District		11
4.0	Timeliness, Appropriateness, Efficiency and Cost-effectiveness		13
4.1	Timeline of the key response activities/processes		13
4.2	Appropriateness of the response		14
4.3	Efficiency of the response		15
4.4	Cost-effectiveness of the response		16
5.0	Technical Review of the Hardware Components		18
5.1	Technical Overview of the Water System		18
5.2	Technical Overview of the Sanitation Component		20
5.3	Water Quality Analysis Procedures		21
5.4	Review of the Tendering Process		22
5.5	Review of the Contractors Work		23
6.0	Review of the Software Components		24
6.1	Stakeholder Consultation and Participation		24
6.2	The Role of the Red Cross		24
6.3	The Role of the Georgian Red Cross Society		25
6.4	The Role of Local Government		26
6.5	Hygiene Promotion		27
6.6	Gender Aspects		29
7.0	Review of the Programme Management and Accountability		30
7.1	Overview of Programme Management within OGB		30
7.2	Overview of Programme Management within Georgian Red Cross		30
7.3	Review of Good Practice and International Standards		31
7.4	Programme Accountability		31
8.0	Implications for OGB Emergency Response in Caucuses		32
8.1	Lessons learnt from the flood response programme		32
8.2	Possibility for replication in Georgia and other CIS countries		32
8.3	Opportunities in Disaster Response Preparedness		33
9.0	Main Conclusions of the Evaluation Team		34
10.0	Main Recommendations for Future Programmes		36

List of Tables

<i>Table 1:</i> Actual number of beneficiaries assisted verses planned	6
<i>Table 2:</i> Actual project results measured against the planned project indicators	7
<i>Table 3:</i> Resume of Key Milestones, April – December 2005	13
<i>Table 4:</i> Yearly Consumable Costs for Use of an Oxfam Delagua Kit	22

List of Figures

<i>Figure 1:</i> Percentage of Planned Programme Expenditure by Category	16
<i>Figure 2:</i> Actual Programme Expenditure Verses Planned Programme Expenditure	17
<i>Figure 3:</i> Actual Expenditure (%) Expressed as Hardware, Software & Operational Costs	17

List of Annex**39**

I	Map of the Affected Areas in Georgia	40
II	Logical Framework for the Intervention	41
III	Approved Budget for the Intervention	42
IV	Terms of Reference (ToR) for the Evaluation	43
V	Planned Evaluation Methodology	46
VI	Evaluation Schedule and People Interviewed, 12 th – 19 th Dec. 2005	48
VII	Success Indicators	50
VIII	Minutes from the Tender Selection Meetings	51
IX	Details of Cash -Transfer Programming in Emergencies Book	54
X	Actual Programme Expenditure	55
XI	Details of Oxfam DelAgua kit	56
XII	Details of Swimming Pool Tester and Delagua Consumables	57
XIII	Details of the OGB Chemical Testing Kit	58
XIV	Tender Related Documents	59
XV	Questionnaire Distributed during PHP Campaign	61
XVI	Front cover of the Information Booklets	63
XVII	Evaluation Form used for Seminar 22-25.XI.05	64
XVIII	ERM Format for a Situation Report	65
XIX	SPHERE Minimum Standards Common to All Sectors (Chapter 1)	67
XX	Book List – Community Participation and Management	68
XXI	Pictures from Khulo District Flood Response Programme	70

1.0 Background

1.1 Context, poverty analysis and objectives

During the period of April 25-30, 2005, a combination of torrential rains and the melting of snow caused heavy flooding in the mountainous regions of the Republic of Georgia. The rains coincided with the opening of two dams, one in Tbilisi and another in Inguri), by the state authorities releasing additional water to Mtkvari River. This resulted in the rising of water levels in Mtkvari, Tskhenistskarti, Rioni, Lajauni and Tsageri rivers, which exacerbated the situation further. The exact numbers of people affected by the floods at the time was unknown? Local government officials say there were no casualties. The floods caused massive landslides and mudflows that led to the damage and loss of agricultural land; homes; livestock; and water drainage systems were all destroyed; roads and bridges were swept away, isolating many communities in mountainous areas.

1.2 Regions and People affected by the floods

The nine geographical regions, (see map, Annex I), affected by the floods included (1) Racha-Lechkhumi – Lower (Kvemo) Svaneti (2) Imereti (3) Samegrelo-Upper (Zemo) Svaneti (4) Inner (Shida) Kartli, (5) Lower (Kvemo) Kartli (6) Mtskheta-Mtianeti (7) Adjara and part of (8) Samtskhe-Javakheti. (9) Khulo and surrounding districts of Adjara. However, all assessments indicated that the most affected districts were Mestia, Oni, Ambrolauri, Tsagehri, Lentekhi and Khulo.

1.3 Analysis of context of vulnerability and coping mechanisms

Western Georgia and the district of Mestia, in particular has been prone to natural hazards for many decades. For instance, in 1989, a landslide destroyed the town of Mestia and 7, 000 of its population were relocated to Eastern and Southern districts of the Republic of Georgia.¹ Even now, the settlements of Becho, Oni and Khulo in Adjara are still vulnerable to landslides. IFRC reports that recommendations prepared by the Georgian State Geologists following last years floods, were not adhered to. In addition, extensive logging of timber has exposed the vegetation cover to increased and frequent soil erosion in the past decade. Finally, the lack of periodic maintenance of social infrastructure; including roads, bridges, rivers, water supply systems and energy infrastructure (gas and electricity), has increased the vulnerability of the infrastructure and worsened the quality of services.

1.4 The Impact of floods on the livelihoods of people

Extensive damage to people's livelihoods were reported reducing their overall resiliency. Many potable water systems were destroyed resulting in scarcity of water. Surface drainage systems were destroyed or blocked in some towns resulting in additional flooding and contamination of potable water systems.² 321 homes were destroyed (UMOCR, WV and WFP report).³ Farmlands were inundated with debris of 20 - 40 cm deep mostly silt and other coarse soil materials, thereby disrupting the current planting season and subsequent agricultural cycles. Pastureland was reduced and a lot of livestock (cattle, pigs and poultry) were washed away. According to the Action Against Hunger (AAH) assessment report, floods killed over 133 cows and swept away sixteen beehives in Samegrelo - Upper Svaneti alone.

¹ Tsalka, Gardabani and Adjara.

² Increased e-coli bacteria in water

³ Joint UMCOR/WV/WFP report mentions 321 households and families (1,600 people) were living with friends and relatives.

1.5 The policy environment as it affects the project

In response to the floods, the government of Georgia worked with their regional institutions to assist people cut-off in remote areas. Various coordination bodies in government ministries were set-up to respond to the floods. For instance, the Emergency Situations and Civil Safety Service (ESCSS) and the Local Governance and Regional Policy Service Committee, chaired by the Prime Minister of Georgia, assessed the flood damage as well as coordinating the distribution of international humanitarian assistance. They publicly pledged to support those affected, including monetary compensation as well as humanitarian and technical assistance. The government of Georgia has received aid from NATO and other neighbouring countries.

In addition, a number of international non-governmental organisations under a UNDP led Disaster Management Team (DMT) carried out vulnerability assessments to identify immediate needs. Respective NGOs launched preliminary emergency and annual appeals in response to the needs; food aid (WFP); medicine and immunization (UMCOR and UNICEF); agriculture and livestock (ACH); and water supply and sanitation (IFRC and Georgian Red Cross Society. Oxfam Georgia, as a member of DMT, consolidated all the assessments in order to identify gaps in humanitarian response, thereby providing a rationale for appropriate response. As a result, gaps in water and sanitation, education, shelter and disaster mitigation were identified.

1.6 Programme overview

Based on an assessment undertaken for Oxfam GB by a consultant⁴, Godfrey Lokuju, three options for Oxfam GB were proposed:

1. To improve access to potable water supplies in towns and villages. In total, seven towns and villages were proposed, including Oni, Ipari, Lentekhi, Mestia, Latali, Khulo and Dakanashvilebi district.
2. To promote Public Health and Health Education in Khulo Adjara, as a complement to the GRCS and IFRC.
3. To provide Mitigation, Preparedness and Disaster Response training for communities and institutions, living in disaster prone areas.

Based on; the needs assessment; a proactive coordination process with government and other agencies; and based on Oxfam's desire to work through local partners, the decision was taken to rehabilitate the water supply system in Khulo, working through the GRCS as a partner.

Expected Programme Impact:

To relieve distress and suffering by addressing water and sanitation needs of the flood-affected population of 6,400 in Khulo, Danagleba, Dagnavilebi, Okurashvilebi and Vashovan communities in Adjara Region of Western Georgia.

Expected Programme Outcome:

To reduce public health risks to 6,400 men, women and children affected by the floods through the provision of affordable, accessible and usable water and sanitation facilities. Improved wastewater collection and treatment systems will end the current practice of discharging wastewater directly into the river thereby polluting water sources in villages located downstream. Finally, improved disposal of wastewater will improve drainage and reduce pollution of underground water sources in Khulo and neighbouring villages.

⁴ Flooding and Landslides in the Republic of Georgia: Consolidation of Assessed Needs and Options for Oxfam GB. – Godfrey Lokuju, June 2005.

Expected Project Specific Objectives

The expected specific objectives of the programme, (see logical framework, Annex II), were as follows:

1. Improved access to adequate quantities of potable water for 6,400 people in Khulo, Dzirkvadzeebi, Dakanashvilebi, Okruashvilebi and Vashlovan Village through the repair of water storage tanks and conveyance systems-pipes.
2. Improved personal and communal hygiene to 6,400 people living in Khulo, Dzirkvadzeebi, Dakanashvilebi, Okruashvilebi and Vashlovan Villages through repair of sewage system (pipes and manholes).
3. Increased public health awareness (in particular of appropriate methods of solid waste disposal) through public health promotion. Initially, 20 households, families and individuals currently using improper latrines will be targeted.
4. Participation of District authorities and Community Members and Groups in project implementation.

Budget

Oxfam approved a budget of **GBP 99, 435** for programme implementation, period of 7-months, starting in June 2005 (see approved budget, Annex III).

2.0 Overview of the Evaluation

2.1 Purpose and objective of the evaluation

The primary purpose of the evaluation is to improve institutional learning and to share experiences between programmes; and staff; Oxfam; and the Georgian Red Cross Society. While the evaluation will measure impact and appropriateness, it is intended to highlight best practice, which can be translated into preparedness policy and enhance performance and accountability. The full ToR for the evaluation is shown in Annex IV.

2.2 Evaluation methodology and timetable

The evaluation should investigate process as well as impact. As in any emergency, management and response decisions have a great deal of influence on programme impact. The decisions could include choice of partners, level of operationality, speed of response, technical capacity, management capacity, and coordination. The choice of methodology should take into account the above questions as well as more traditional evaluation techniques for measuring impact.

- Document Research
- Interviews (key stakeholder, beneficiaries, Oxfam staff, etc.)
- Strategic Partnership Appraisal
- Technical Appraisal

A planning session for the assessment took place in country, and the evaluation team established a plan of action, and a timetable for the evaluation, (see Annex V). The assessment began on December 12th and ran until December 16th. The planned end date of the programme was December 15th 2005. It was agreed with the Oxfam Georgia office that the final evaluation report would be submitted by 20th January 2006. The actual evaluation schedule and people interviewed during the evaluation is shown in Annex VI.

2.3 Team composition and budget

A budget of GBP 3,635 was approved for the evaluation. As planned, the evaluation team consisted of two internal Oxfam staff, and the Oxfam Georgia HPO. An external evaluator from the Caucuses Region was also invited to participate in the evaluation by the RHC. The final make of the evaluation team was the following:

- Tim Forster, HSP – Capacity Building, OGB
- Ghazi Kelani, Public Health Engineer, OGB
- Karen Arakelyan, Director, STC Armenia
- Giorgi Datasuni, HPO, OGB Georgia

2.4 Planned evaluation outcome

A well-written, incisive, empirically grounded and well-reasoned report, containing the relevant appendixes and other data. The main report will be written in English, with translation into either Russian or Georgian if deemed necessary.

The report will strive to be process oriented rather than reporting solely on what happened, Oxfam would also like information on why it happened. The intended audience for this evaluation report are the programme staff,

management staff, donors, other agencies, and the primary stakeholders (where possible and feasible).

The report will be submitted to the Georgia CPM, MEEECIS RMT and EMP Group, the Humanitarian Coordinator, HD (MEEECIS), GRCS and IFRC Georgia Delegation.

2.5 Constraints encountered during the evaluation

During the evaluation, the following constraints were encountered with both the evaluation methodology and schedule.

- The actual time spent in Khulo was limited to two complete working days. (Tbilisi – Batumi by road requires nearly two full days of travel). The evaluation would have benefited from extra time in the field.
- The translator for the evaluation, a Red Cross volunteer from Batumi was unfortunately sick, so unable to participate. As a result, the evaluation team relied on the HPO for all the translations.
- The evaluation team consisted only of male team members. The evaluation process would have benefited from the presence of female team members (or translators), as the majority of women in Khulo district are Muslim's, and cannot be interviewed by "strange" men on their own.
- The OGB Georgia Country Programme Manager, Ms Ketu Getiashvili is currently seconded to Yemen. As a result, it was not possible to interview her, regarding her role during the needs assessment and start up phase of the flood response. Ms Getiashvili played a key role in decision making, particularly in selecting the areas where to intervene.
- Due to the time constraints, there was not enough time to retrieve epidemiological data from the health facilities.

3.0 Impact of the Response

The needs assessment report was submitted on 11th June 2005, with implementation planned from 1st July to 15th December 2005. The total budget approved was GBP 99,435 (approx. Lari 313,220⁵ from OGB funds (CAT fund). GBP 86,210 (approx. Lari 271,561) was allocated to GRCS, with a further Lari 280,000 (approx. USD 155,555.56 (GBP 88,889), being made available by local government. The objectives of the programme were:

3.1 Programme purpose

To reduce public health risks to 6,400 men, women and children affected by floods through the provision of affordable, accessible and usable water and sanitation facilities.

Specific Objectives:

1. Improved access to ample quantity of potable water for 6,400 people in Khulo, Dzirkvadzeebi, Dakanashvilebi, Okruashvilebi and Vashlovan Village through the repair of water storage tanks and conveyance systems pipes.
2. Improved personal and communal hygiene to 6,400 people living in Khulo, Dzirkvadzeebi, Dakanashvilebi, Okruashvilebi and Vashlovan Village through the repair of sewerage system (pipes and manholes).
3. Increased public health awareness (in particular of appropriate methods of solid waste disposal) through public health promotion. Initially, 20 households, families and individuals currently using improper latrines will be targeted
4. Participation of District authorities and Community Members and groups in implementation.

3.2 Planned beneficiaries

From the original log frame, it was planned to assist the following number of beneficiaries.

- 6,400 men, women and children.

3.3 Actual reported results

Table 1 shows the breakdown of beneficiaries actually assisted, by sector:

Sector	Planned	Reported	Category	Location
S.O. 1: Access to safe water	6,400 people	7,500 ⁶ + (1,500 families)	Men, women & children	Khulo, Dzirkvadzeebi, Dakanashvilebi, Okruashvilebi and Vashlovan Villages
S.O. 2: Improved personal and communal hygiene	6,400 people	Not possible to ascertain	Men, women & children	
S.O. 3: Increased public health awareness	120 people	Not possible to ascertain as activity changed	Families	
S.O. 4: Participation of authorities and community members	Not specified		People	

Table 1: Actual number of beneficiaries assisted verses planned

⁵ Based on 1 GBP = 3.15 Georgian Lari

⁶ Success Indicators, Water System Rehabilitation – Giorgi Datasuni (see Annex VII)

Table 2: Actual project results measured against the planned project indicators

Specific Objective	Planned Indicators ⁷	Source of Verification	Status of Indicators	Actual Results
Improved access to ample quantity of potable water for 6,400 people in Khulo, Dzirkvadzeebi, Dakanashvilebi, Okruashvilebi and Vashlovan Village through the repair of water storage tanks and conveyance systems pipes.	<ol style="list-style-type: none"> 1. Rehabilitated water system, main reservoir and 2 new reservoirs 2. 6,400 people access at least 50 l/p/d 3. Decrease in e-coli from 75 e-coli/100 ml to 10 e-coli/100 ml 4. Time saved in collecting water. 5. People are more confident and prepared for future disasters 	<ol style="list-style-type: none"> 1. Contract agreements for the rehabilitation of water supply in Khulo 2. Quarterly and Final Project monitoring reports 3. Bacteriological and Physical water quality tests in Khulo and Batumi 4. End of project survey 5. Hand over certificate 	<p>Contract agreement exists, and a rehabilitated main water system is visible.</p> <p>Quarterly monitoring report exists. No final report exists.</p> <p>Microbial and physical test records exist. Raw water always < 10 e-coli/100 ml.</p> <p>Not undertaken to date</p> <p>Document witnessed, but only exists in Georgian</p>	<p>Main water system and reservoir rehabilitated along with new reservoirs added.</p> <p>Estimated that people have access to > 150 l/p/d</p> <p>No evidence of improvement in water quality. Selected indicators inappropriate.</p> <p>None, no evidence of improvement?</p> <p>No evidence that people are more confident and prepared for future disasters?</p>
Improved personal and communal hygiene to 6,400 people living in Khulo, Dzirkvadzeebi, Dakanashvilebi, Okruashvilebi and Vashlovan Village through the repair of sewerage system (pipes & manholes).	<ol style="list-style-type: none"> 1. Reduction in water borne diseases 2. Total length in metres of rehabilitated wastewater and sewerage system. 3. Number of sewerage collectors and manholes replaced. 	No sources of verification given in log frame?	<p>No records available to verify if there has been a reduction.</p> <p>780 m of wastewater collector piping was laid according to the contractor.</p> <p>38 collectors and manholes were laid according to the contractor</p>	<p>No factual evidence of disease` rates being reduced.</p> <p>Evidence of households in main village being connected to network & treatment plant</p> <p>Evidence of households in main village being connected to network & treatment plant</p>
Increased public health awareness (in particular of appropriate methods of solid waste disposal) through public health promotion. Initially, 20 households, families and individuals currently using improper latrines will be targeted	<ol style="list-style-type: none"> 1. 20 families start using alternative pit latrines. 	<ol style="list-style-type: none"> 1. Cases of water borne diseases reported at the Khulo health facility. 	The activity changed from the one originally planned at the request of the authorities. Not possible to verify if water borne diseases have been reduced.	A rehabilitated public toilet facility at the town hall.
Participation of District authorities and Community Members and groups in implementation.	<ol style="list-style-type: none"> 1. No of equipment provided by District Council 2. Unskilled labour provided by community members. 	<ol style="list-style-type: none"> 1. No Excavators tracked 2. Time spent by community members measured in hr/man/d 		

⁷ Logical frame analysis: Emergency Response to the floods in Khulo, Adjara, Western Georgia

3.4 Observations on results obtained

Result 1: From Table 1 above, 1,500 households (7,500 people) are now estimated to be benefiting from the rehabilitated water supply. Prior to the intervention, only 750 households were connected to the water supply system (see Annex VII). As such, 3,250 new people are now benefiting from a stable water supply. The amount of water being accessed by beneficiaries of the water system is estimated at 150 l/p/d (see Annex VII).

During the evaluation, many of the government officials, health staff and beneficiaries stated that water quality improvement was the main benefit brought about by the programme. After consulting water quality records (microbial, chemical and physical) at the Communal Department, it was not possible to prove quantifiably that there was indeed an improvement in drinking water quality? The records showed that water quality parameters were the same before, during and after the rehabilitation, with only 3 days, where water quality (e-coli detected) was of concern? Treating the water supply with chlorine controlled these sporadic outbreaks. However, it should be noted that there are doubts about the accuracy of the water quality test procedures undertaken by Communal Department, as the service is vastly under resourced, ill equipped and using equipment that is 20 - 30 years old. The programme missed an opportunity to improve the quality of the water quality control service offered! It should also be noted that the values of e-coli selected for the "indicator" (see logical framework), are inappropriate. SPHERE gives a key indicator as being "there are no faecal coliforms per 100ml at the point of delivery". The SPHERE indicator would have been more appropriate than the one chosen. This would also have been consistent with both WHO and national standards for drinking water quality.

Regarding the population being more confident and prepared for future disasters, as a result of the intervention, OGB programme staff reported that:

"The local population has formed a rapid response team with 12 persons, the head is Guram Saginadze, Deputy Head of Khulo District".

"Based on their previous experience and the skills and information that they received from training sessions conducted during the programme, they know to respond quickly to emergencies in case of need".

During the evaluation, many beneficiaries were also very grateful that their water supply had been rehabilitated. Previously, their was "discontent" because they only had potable water for 3 - 4 hours every third day. No water is available without any restrictions. In the past they were also unhappy with water quality (i.e. colour, smell and taste). Previously, there were reportedly instances of frequent diarrhoeal disease among children; this has now been reportedly reduced to the minimum. Knowing that the equipment in the water-testing laboratory is 20 - 30 years old, and not reliable, such an attitude amongst the population could be viewed as a success indicator. However, in future, more care needs to be taken when selecting such indicators, as they are very subjective and difficult to quantify!

Result 2: In total, 780 m of sewer network piping was installed along with 38 collectors and manholes. Although not all the collectors were visited, a good number of them were visually identified during the evaluation. According to the contractor, 70% of the target group (4,480 people) are now connected to the sewerage network; however, it was not possible to verify this figure. A visit was also made to the old sewerage treatment plant, which has been rehabilitated using local government funds. Wastewater from Khulo village is indeed being

discharged into the partly rehabilitated sewerage treatment plant. There are some doubts about the effectiveness of the wastewater treatment, as it is not sure that the rehabilitated part-plant has adequate retention time? No design drawings or calculations were available for this component of the work. However, it can be stated that more wastewater is being collected and being given at least some treatment prior to discharge into the river valley below Khulo. The impact of this however is difficult to quantify?

According to data from 2005, obtained by Oxfam Georgia HPO, from the public health department in Khulo, there were 156 cases of water-borne diseases in 2005. Of these, 72 cases were registered up to May 2005. In September there were 13 cases, 11 cases in October, 3 cases in November and 3 cases in December, this means that there were 54 cases from May till September. These are the registered cases, as for unregistered cases, or the cases that are usually treated at home using traditional methods, thus we can assume that the unreported cases largely exceed the reported cases.

Discussions with health staff at the hospital also revealed that diarrhoeal disease was one of the main causes of illness prior to the programme intervention. In future, it's recommended that baseline data from the health facilities should be recorded and included in assessment and sitrep reports in a systematic manner, both prior to the intervention, and during the programme period!

Result 3: The 20 pilot latrine units planned for 20 families were not built! The local authorities along with local population modified this activity. Oxfam and Red Cross approved the modification. No changes were made to the log frame or the original planning documents. The changes were also agreed with the MEEECIS RHC (Simon Springett). The resources for the planned 20 latrines were eventually used for the rehabilitation of a public toilet (3 cubicles men, 3 cubicles women, plus a men's urinal) near to the town hall. The cost of the rehabilitation work was GBP 4,800 and consisted of 170 sq meter cement roofing and 6 squatting plates. The roof is also used as a public gathering place (for socializing). 45 m of plastic sewer pipes were also installed, as were 184 m of water pipes to the building. The work also consisted of stairs, a deck with artificial plates (45 m²), and a concrete water drainage channel. The remaining money from the contingency fund was also used for this purpose.

The Gamgebeli (District Mayor) reported the main benefits of the communal toilets being:

“Providing a much needed facility for the population visiting the District Administrative centre, thereby improving health, as well as being convenient for the population”.

All the essential service facilities are concentrated in the District Administrative Centre, as well as being a place for public gathering. The existing communal latrine was considered a possible source for spreading infectious diseases. Previously, it had not been connected to the central sewer system, and there was no water supply, with faecal matter running into the road. Undoubtedly, the rehabilitation of the public toilets is useful and convenient for visitors to the District centre; however, it is likely that the action will have only limited impact on health. Even with epidemiological data from the health facilities, it is unlikely that any improvements in health can be directly related to the rehabilitation of the toilet facility. Also, cost per drop hole, > GBP 800, would seem to be high!

Health promotion activities are currently on going; in total 5 workshops will be held for approximately 200 members of the community. 2,000 booklets on First Aid/health issues, and 2,000 booklets on disaster response preparedness, will

be distributed to the community. Currently, there is no mechanism for measuring the impact of these health promotion activities over and above attendance at the workshops? No monitoring mechanisms will be put in place to measure the impact of the actions! Undoubtedly, a number of people will receive training, and a number of people will read the booklets produced, however benefits of such activities will be impossible to measure in the present circumstances.

Result 4: The local authorities have been a willing participant in the rehabilitation project, providing not only funds, but also taking a lead role in the project planning, and implementation phases. In total, government contributed Lari 280,000 to the global project. Perhaps the authorities role in the implementation is greater than would normally been envisaged, as the contractor selected, Poni Ltd., is not only a contractor but also the head of communal works department! Clearly this may be interesting from a sustainability and maintenance point of view, however questions may be raised about tendering procedures followed, and possible conflict of interest? The minutes from the tender procedures meetings are shown in Annex VIII. It is also interesting to note that the communal works department will also be the owner of the infrastructure after the project is completed!

During the project cycle, the following equipment and labour resources were employed by the project, based on information supplied by the contractor:

- 1 x Electrical welding Machine
- 1 x Generator and Welding Machine
- 1 x Oxyacetylene Welding Unit and Cutting Torch
- 1 x Truck and Trailer
- 1 x Excavator (sewerage system only)

23 full time staff, from the Communal Works Department (including laboratory staff), were also at the disposition of the project, contributing as and when required.

On top of this, the contractor (Poni Ltd.) employed 53 specialist staff and daily labourers on a permanent basis for the duration of the technical works. The employment of daily labourers from the community was particular popular feature of the project. In interviews with beneficiaries, the daily labour component of the project was very popular, as unemployment in Khulo District is very high. However, it should be said that casual daily labour mainly benefits male members of the community! It was impossible to verify if the number of casual workers participating on a daily basis, quoted by the contractor, is accurate! In future, for projects of this type using casual daily labour, better indicators and means of verification (e.g. lists of payments to daily labourers) should be selected. Guidelines, such as the Oxfam publication "Cash-Transfer Programming in Emergencies - A Practical Guide" (see Annex IX), would be useful as a reference to setting up cash-transfer mechanisms. This is a very relevant indicator in terms of measuring programme impact; only the means of verification needs to be made more systematic.

The equipment and plant used by the contractor is in accordance with what would be expected in a technical programme of this type. Quantifying the use of the equipment and plant, as an indicator, would seem to have little purpose, especially in terms of measuring the impact of the project on the beneficiaries.

3.5 Impact on the lives of men, women and children in Khulo District

Achieving the overall objective of this project has proved difficult given the limited amount of time available for project implementation. The situation was made more complicated by extreme weather conditions in October/November, a critical time in terms of rehabilitating the water system. However, it can be said that the intervention has been successful both in terms of:

- Restoring the water system
- Increasing coverage (no. Of water points)
- Restoring a crude sewerage treatment system
- Increasing the number connections to the central sewerage system

For the beneficiaries and officials met during the evaluation, there was overall appreciation of the rehabilitation project. Some qualitative comments made include:

<i>Khulo Doctor:</i>	“Communicable diseases have been reduced”
<i>Seminar Participant:</i>	“Satisfied that they have good quality water”
<i>Seminar Participant:</i>	“No shortage of water”
<i>Seminar Participant:</i>	“No worries about water quality when making food”
<i>Seminar Participant:</i>	“Previously it was difficult to wash white cloths”
<i>Seminar Participant:</i>	“Prior to the floods and during the floods, people accessed small water sources”
<i>Health Staff</i>	“They have access to water 24 hours/day”
<i>Health Staff</i>	“Physically the water quality looks better”
<i>Health Staff</i>	“In the past they had contaminated water”

However, it should be noted that it is **not possible to quantify** the impact on the men women and children of Khulo, due to the quality of the monitoring data. The impact of the sanitation activities did not register in the beneficiary’s appreciation! Regarding water quality, it was also **not possible to quantify**, as the test procedures followed by authorities are felt to be incomplete (see section 5.3).

In the opinion of the evaluators, the physical properties of the water will definitely be improved in terms of reducing turbidity, due to the addition of a filter chamber. However, it will not be possible to quantify the microbial quality of the water due to the lack of a reliable water testing facility. Again, the sewerage system rehabilitation and coverage increase are both likely to impact positively of people’s health, even though the sewerage treatment is very crude. Again however, this will be difficult to quantify as no mechanisms were put in place to collect this information.

On a more negative note, programme impact is not as beneficial as could have been achieved due to weaknesses in the following areas:

- The public toilet rehabilitation serves little purpose in terms of health benefits
- The public health promotion activities were late and could be strengthened in terms of methodology and materials used.
- Community participation could be increased, especially in the decision making process.

- The role of women could be increased, particularly in the decision-making process (community) and implementation process (female staff members OGB and GRCS).

Overall, executing this project has proved very challenging from a number of aspects, including: technical issues, logistical issues, cultural issues and social issues. Although not fully successful, the project has impacted on people living in an economically disadvantaged area of Georgia. The project has allowed Oxfam and indeed other key stakeholders to create a meaningful dialogue with the community in Khulo, although there is an underlying “dependency mentality” for free government services. There is a need to continue this dialogue, particularly with government agencies.

Also, for Oxfam itself, and GRCS, there has been a number of lessons learnt; including: better understanding/knowledge of coordinating a disaster response; better planning/operational procedures when implementing technical activities; and in terms of cross-institutional learning.

4.0 Timeliness and Appropriateness of the Response

4.1 Timeline of the key response activities/processes

Who? Where? What?	Event or Milestone	Dates
Georgia	Serious flooding in mountainous areas of Georgia. Regions affected include Racha-Lechkhumi, Lower Svaneti, Imereti, Samegrelo-Upper Svaneti, Inner Kartli, Lower Kartli, Mtskheta-Mtianeti, Adjara and part of Samtskhe-Javakheti.	25/4/05 – 30/4/05
OGB Georgia Office	Needs assessment report by Godfrey Lokuju completed for the OGB Georgia office.	11/6/05
HD, Oxford	Advice received from the PHE Advisor in Oxford on technical aspects of the project.	27/06/2005
OGB and GRCS, Tbilisi	Agreement for the rehabilitation programme in Khulo District signed between OGB and GRCS.	1/7/05
1 st Khulo Monitoring Visit by HPO	Giorgi Datasuni, newly appointed Humanitarian Programme Officer makes his first visit to Khulo District	21/7/05 – 22/7/05
Tendering Process	First part of the tender process, held in the office of “Red Cross”. 3 contractors are short-listed.	19/8/05
Tbilisi	Final session of the tender commission held at GRCS office in Tbilisi.	29/08/05
3 rd Khulo Monitoring Visit by HPO	Training course held for local “Red Cross” staff in Batumi, focussing on the theme: strategic planning. Plan for other training sessions drawn up!	20/09/05 – 23/09/05
Contract signed with Poni Ltd.	A contract with “Poni” LTD signed, after they were selected as the contractor.	30/9/05
4 th Monitoring Visit to Batumi by HPO	A training schedule for hygiene promotion agreed between Oxfam and Red Cross. The target group was selected, and contents for a booklet agreed. Bad weather and snow disrupt work!	5/10/05 – 7/10/05
Khulo	Heavy rain and early snowfall causes serious flooding in Khulo District, leading to disruption of work on the water system	October
Khulo	Contractor and local authorities sign “Closed Work Acts”, for works on sewerage system and the pipelines.	15/10/05
Quarterly Report, OGB Georgia	Quarterly report submitted for the OPAL system, for the period August to October, on progress to date.	1/11/05
5 th Monitoring Visit to Khulo by HPO	Contractor has finished construction of 1500 m long pipeline, water tank roofing, water tank fencing, and 300 m long pipeline at source. Scope of work for communal latrine rehab established! Weather has improved!	21/11/05
6 th Monitoring Visit to Batumi and Khulo by HPO	Civil works handed over to authorities, sustainability recommendations given for system. GRCS in Batumi prepare picture illustration posters, reflecting all stages of rehabilitation process: before, during and after.	7/12/05
Tbilisi	Printing of 4,000 information booklets (2000 First Aid & 2000 DP) for GRCS completed in Tbilisi.	14/12/05
Khulo District and Batumi	Evaluation of flood response programme by Tim Forster, Ghazi Kelani and, Karen Arakelyan, Giorgi Datasuni (OGB) and Otar Davitadze (GRCS Batumi).	12/12/05 - 16/12/05
Tbilisi	Evaluation of PHP component of the programme by Coordinator of Health and Social Programmes, GRCS.	Planned January 2006

Table 3: Resume of Key Milestones – April to December 2005.

4.2 Appropriateness of the response

The flooding in April 2005 would seem to have caused severe hardship for an already impoverished and vulnerable group of people in Khulo District. Based on needs assessment reports from the time of the flooding, and on interviews with key stakeholders during the evaluation, it would seem that the choice of Khulo District was appropriate, both in terms of addressing flood related needs, and in terms of addressing the needs of people living in poverty.

During the evaluation process, questions were raised about neighbouring towns, such as Chanchkhalo, and if needs had been met/assessed in such areas? Although time was very limited during the evaluation, no information came to light indicating that needs existed in Chanchkhalo (there is a project to rehabilitate the gas duct, but not the water system), or other areas of close by. All discussions (during evaluation), and needs assessment reports, indicate that both Oni and Khulo were amongst the worst affected areas. Oxfam was a key player in the Disaster Management Team (DMT) at the time of the flood response, and actively coordinated with a number of agencies including; Red Cross (GRCS & IFRC); Action Against Hunger (AAH); UN; WFP; UMCOR and UNICEF. The choice of Khulo District would also seem appropriate, given that the other area seriously affected by the floods was Oni. In Oni, the GRCS and IFRC implemented a similar public health programme.

In terms of the needs identified by the assessment team, the following sectors were identified as being of priority for the communities affected:

- Potable water supply and sanitation
- Food aid
- Agriculture and livestock
- Health
- Shelter

In Khulo District, some food aid and hygiene kits were distributed by GRCS to selected beneficiaries. Health services have also been provided through the government health structure (which is supported by UNICEF). Only a small number of families lost their homes, and these people found shelter in communal buildings. The government will assist such people to rebuild their homes in safer locations. In these terms, the choice of Oxfam to support the rehabilitation of water supply and sanitation infrastructure would appear to have been an appropriate choice of response. However, there would appear to have been gaps in meeting the emergency water supply needs of selected groups in the immediate aftermath of the floods! For example, the hospital in Khulo was obliged to send people to collect water in buckets from local water sources, as the main water supply was cut off. The programme did not attempt to meet such needs, or the programme started to late to respond to such needs? The use of a “cash-for-work” approach, using casual labour would also seem appropriate, given that there was no formal “livelihoods” component. However, the targeting of such support could have been improved, targeting men, women and more vulnerable groups.

In terms of timing, the response could have been timelier, given that the floods happened at the end of April and the actual response only started in July. Some of the delays were caused by the lack of the government leadership at the time of the floods. However, the DMT is said to have convened ten days after the floods⁸, indicating that assessment teams would have started collecting information by mid-May. Given that Oxfam Georgia did not have any

⁸ Interview with Nino Antadze, Humanitarian Affairs Officer, United Nations, Office of the Resident Coordinator

humanitarian staff on their payroll at this time, the delay from mid-May to July is understandable, as it was necessary to bring in an experienced consultant and to hire qualified staff for the activities identified. However, given the chaotic nature of the government emergency services, the vulnerability of many communities outside of Tbilisi and the “risks” (earthquake and flooding), especially in the remote mountain areas, the need for Oxfam Georgia to maintain a “response preparedness capacity” is clearly visible. Maintaining qualified and trained staff on the OGB payroll would be one way of ensuring a timelier, appropriate response in the future.

4.3 Efficiency of the response

The choice of working through a national Georgian counterpart (i.e. GRCS) would seem to be an efficient way to respond to the floods. This is an effective way of mobilising structures and human resources, given that OGB Georgia did not have humanitarian staff on the payroll. The GRCS has a centralised logistics capacity, both in terms of staff and procedures, and the programme seems to have made efficient use of this capacity, given this type of rehabilitation project requires strong logistics support for procurement.

The Red Cross in general, also has a very strong volunteer base. Very often, such volunteers are used within the existing Red Cross structures to support community-based projects. Activities within the programme, particularly the public health promotion activities, are ideally suited to be carried out by such a “voluntary” structure. However, saying this, such volunteer structures are often based around a strong RC branch structures? In Georgia, the actual strength of individual branches is difficult to evaluate at the present time, as GRCS has been going through a considerable amount of restructuring in the past 5-years. According to IFRC⁹ the next major task for GRCS is to create “model” branches and to have a more systematic programmes, focusing on community based activities! Looking at the software, there would appear to be a number of weaknesses, as is discussed later in section 6. As a result, the programme may not have used the RC structures as efficiently as they could have been used.

Regarding hiring technical staff for the programme (engineer hired by GRCS). For the evaluation team, it was difficult to see the benefit to the programme of hiring such as person within the RC structure? Firstly, water and sanitation projects are not a core activity of GRCS (although they did a watsan programme in Oni). Secondly, an “individual” engineer, with no connection to RC, is hired on fixed term contract basis, and is likely to leave on completion. So there is little added value to RC? In terms of efficiency, it may have been more effective if OGB had directly hired an engineer, leaving GRCS to focus more on the software and logistics side of activities. This would also have freed up the HPO to work on other issues, such as monitoring (i.e. health data, etc.). Ultimately, this may have decreased slightly the % budget employed by GRCS, but overall, this may have been a more efficient use of resources? However saying this, the IFRC HoD categorically stated that:

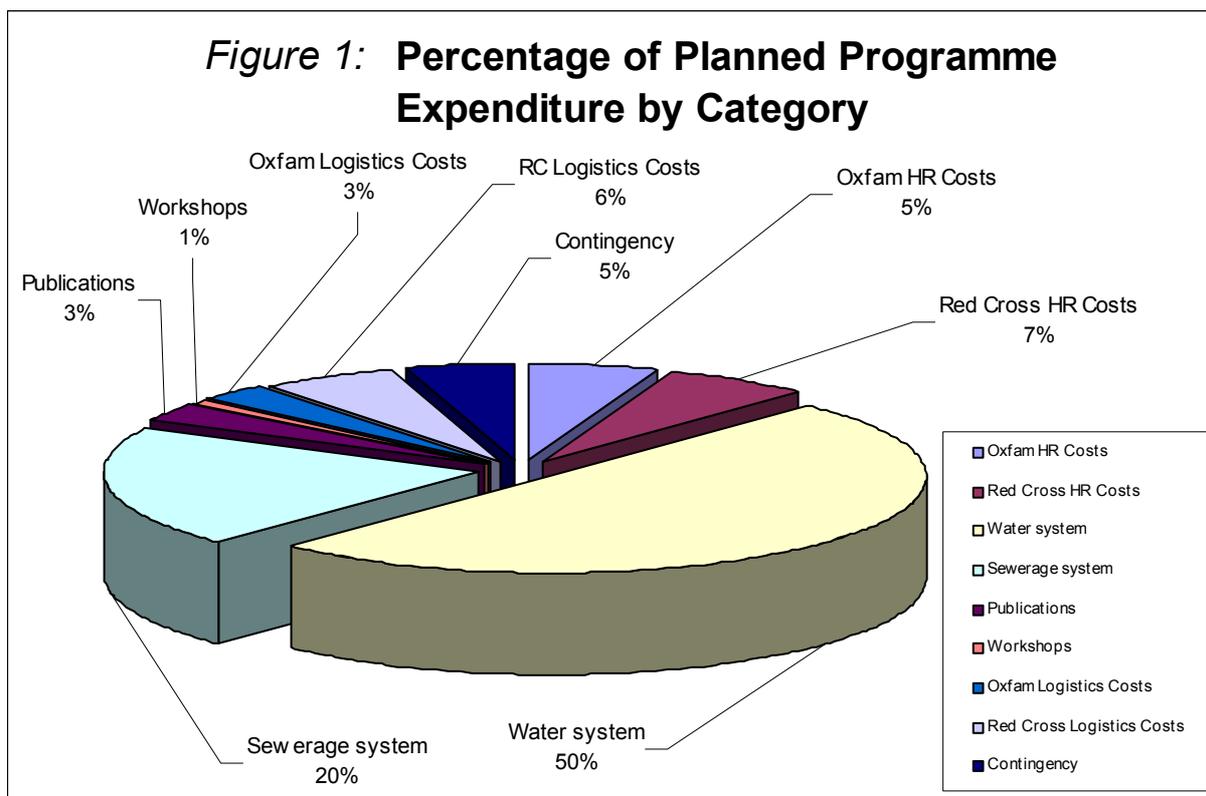
“GRCS found the Oni and Khulo experiences both positive and successful. OGB should continue channel resources through GRCS in future emergencies”

For future programmes, who recruits and contracts technical staff is a point for discussion between GRCS and Oxfam, as HR could be used more effectively.

⁹ Interview with Ashot Sargsyan, HoD, IFRC Georgia.

4.4 Cost-Effectiveness of the Response

The breakdown of the planned budget expenditure for the approved budget (GPB 99,435), is shown below in Figure 1:



From the above figure, 70% of the approved programme budget was earmarked for technical hardware, while only 4% was earmarked for software activities.

In terms of operational costs (HR + logistics), OGB planned to use 8% of the budget, with GRCS planning to use 13% of the total budget.

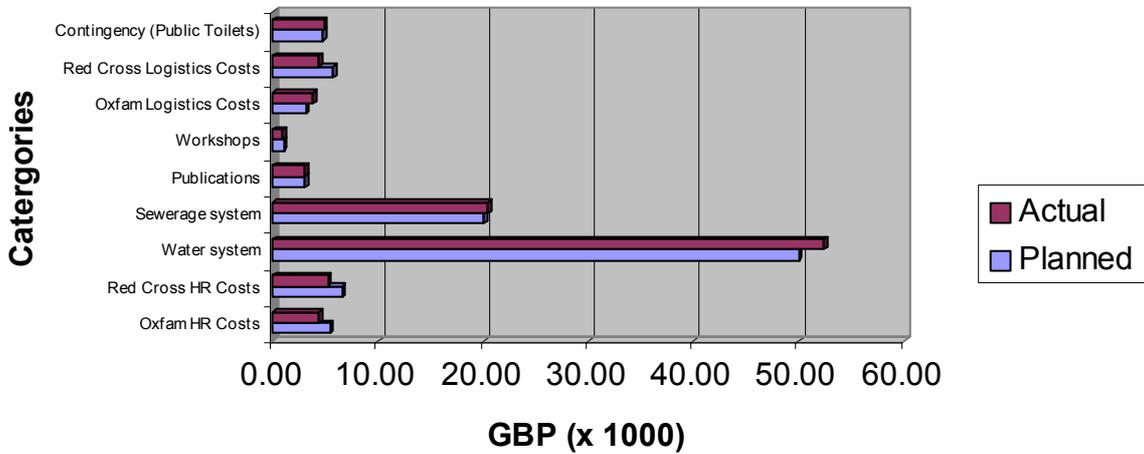
5% of the budget was earmarked as a “contingency” for unforeseen expenditure.

Actual Expenditure versus Planned Expenditure

Actual programme expenditure, by category, is shown in Annex X. The breakdown of the actual budget expenditure versus the planned budget expenditure, is shown below in Figure 2.

From the Figure 2, we can see that expenditure on the whole is as planned, with moderately higher actual expenditure on; Oxfam logistics costs; the sewerage system; and the water system. On the other hand, actual expenditure was moderately lower on; GRCS logistics costs; Oxfam HR costs; and GRCS HR costs. Actual expenditure on the software elements, workshops and publications was as planned.

Figure 2: Actual Programme Expenditure Verses Planned Programme Expenditure

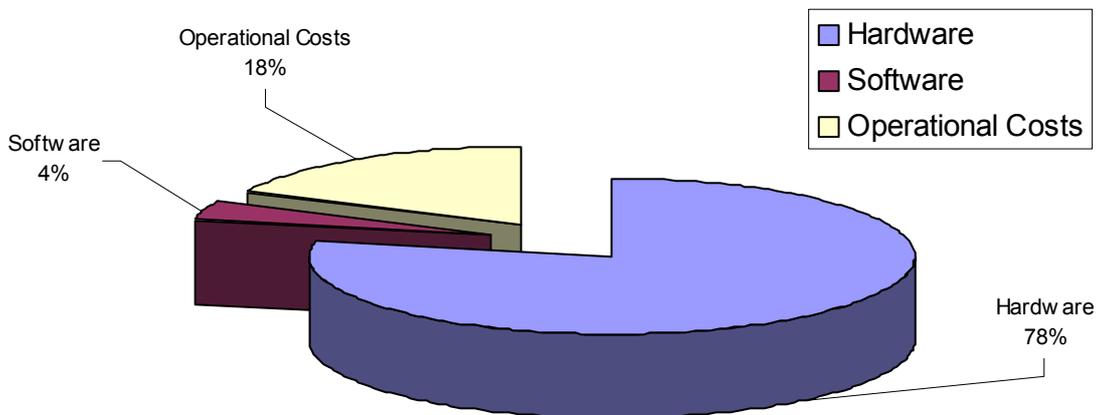


Actual Expenditure by Category

The breakdown of the actual budget expenditure, by category, of Hardware, software and operational costs, is shown below in Figure 3.

From Figure 3, we can see that a high proportion of the OGB programme funds, 78% were spent on hardware, i.e. Water system; Sewerage system and Communal toilets. Only 4% was spent on software and 18% of actual expenditure was spent on associated operational costs, i.e. GRCS logistics and HR; and Oxfam logistics and HR.

Figure 3: Actual Expenditure (%) - Expressed as Hardware, Software and Operational Costs



5.0 Technical Review of the Hardware Components

5.1 Technical Overview of the Water System

The gravity fed water system in Khulo was built in Soviet times, and consisted of two stream catchments; two break pressure tanks; a large 10" diameter steel delivery main; and a 1000 m³ storage tank located in Khulo. There was no filtration system and no means of water treatment. Household connections were then taken to individual households, through various distribution pipes that were connected to the storage or break pressure tanks.

Water Source:

The meeting point of two upland streams in the mountain above Khulo, there was no available information about discharge and quality of water. The estimated discharge into the system is 25-30 L/sec.

Pre Flooding Water System:

(As we have been informed verbally by the designer Mr. Rezo Didmanidze of Adjar Spets Project and head of Sanitary Epidemic Station):

It was constructed in 1985 and comprising from the following elements:

- a- Primitive collection weir with 250mm diameter pipe outlet;
- b- Gravity main transmission steel pipeline 250mm diameter and total length of 2085 LM, unlined and un-insulated;
- c- Open over ground reinforced concrete mains storage tank of 1000 m³ capacity with 150mm diameter pipe outlet; to
- d- Main distribution pipelines
- e- House connections, pipelines and distribution manholes along the main transmission and main distribution pipelines
- f- The governmental utility responsible for operating and maintaining the system is called Sanitary Epidemic Station with 23 members of staff and very poorly equipped.
- g- Water price is 0.75 L/person/month

Water system after rehabilitation:

- a- Water collection facility, comprising of: reinforced concrete buffer walls, reinforced concrete weir, steel grid at 150mm cc as roof cover and two 300mm diameter outlets.
- b- Two steel pipes 300mm diameter each and total length of 160m, connecting the collection facility to the primary treatment unit.
- c- Screening and pre-treatment unit: double chamber steel tank with steel grid size 50mm cc at the influent, washout pipe 200mm diameter and 250mm diameter outlet.
- d- Gravity main transmission pipelines, 250mm diameter total length of 2000 m and 100mm diameter total length of 1640m, including, washouts, pressure release valves, air release valves and all kind of necessary fittings.
- e- Water treatment unit comprising of: hydraulic velocity breaking chamber, double horizontal continuous flow sedimentation, double chamber for rapid vertical flow roughing filtration, pumping station for backwashing the filter
- f- Closed rectangular over ground reinforced concrete water storage tank 1000 m³ capacity with 150mm diameter pipe outlet
- g- Pumping station for backwashing the filter, not completed
- h- Chlorine gas water disinfection unit
- i- House connections, pipelines and distribution manholes along the main transmission and main distribution pipelines.

Rehabilitation Project, Oxfam GB Scope of Delivery

- a- Water collection facility, comprising of: reinforced concrete buffer walls, reinforced concrete weir, steel grid at 150mm cc as roof cover and two 300mm diameter outlets.
- b- Two steel pipes 300mm diameter each and total length of 160m, connecting the collection facility to the primary treatment unit.
- c- Screening and pre-treatment unit: double chamber steel tank with steel grid size 50mm cc at the influent, washout pipe 200mm diameter and 250mm diameter outlet.
- d- Main transmission pipeline, 100mm diameter total length of 1640m, including, washouts, 16mm steel as pressure release and air release pipes.
- e- Roofing for water treatment unit comprising of typical trussed rafters and corrugated laminated steel sheets.

Observations on the water supply system:

- a- Water source: quality and quantity of surface water from streams usually poor due to high content of organic material, bacteria, discharge during dry season and frost during winter; although no information has been furnished about the source, but from the location of the intake, the system chosen for water treatment, the quantity of water supplied into the system and need we could notice that this issue might not be considered as high risk.
- b- Water collection facility, to avoid large sediment loads during hydrological season it would be better to have a diversion structure for intake rather than having the supply pipe directly from the weir.
- c- Screening and pre-treatment unit: very high flow rate inside, very high hydraulic velocity, made of black steel unpainted both internally and externally, without access cover might raise doubts on the function and life time of this structure.
- d- In accordance with the design this structure has to be made of reinforced concrete, here we could notice that there has been undocumented (please see annex01) change order.
- e- Pipelines diameter: a proper investigation for how much water do we need to supply has probably lead to more efficient use of the allocated resources and better impact on the environment (more water = more waste water); verbally we have been informed and it could be noticed also that the supply is 25-30l/s this mains 332-399 l/c/d.
- f- Pipelines material: black steel pipes, seamless, 8mm wall thickness, unlined from inside and badly isolated with two coats of bituminous paint from out side is not recommended for potable water use, but obviously it has been imported from Ukraine and considered as the only locally available pipeline.
- g- Pipelines setting depth: generally we can say that the pipeline is an above ground one, a part from some segments where it has been buried, the issue of frost which is typical for the region can't be of significant risk due to the permanent high hydraulic velocity in the pipe line and the min 0.5m depth has been neglected due to the emergency situation, but an anchorage for the pipeline hasn't been foreseen. The pipeline should have anchors at key points, even if the pipe is buried in some sections.
- h- Water treatment unit: the thickness of the graded gravel layer is insufficient; this note has been passed to the contractor.
- i- Water storage tank: the roof slab has been poured without any repair work to the old deteriorated plaster on the inner walls of the tank and

making good around the area slab to wall connections; opening has been foreseen for the inlet pipe which has been erected without closing around and opened vent pipes without protection, notes has been passed to the contractor.

- j- The scope of the work was to partially rehabilitate the existing system as well as adding water treatment equipment, to improve water quality. One intake was also moved higher to protect the intake from flooding, requiring the addition of 300 m of 10" diameter steel pipe, and the construction of a new intake structure. A number of damaged sections on the main 10" diameter delivery main were also replaced. A new gravel bed water filter was built in Khulo, complete with an electric pump for back washing the filter bed. An existing 120 m³ water reservoir was rehabilitated, and a chlorination unit.
- k- House connections: a lot of houses are connected to the system before the treatment unit and chlorination; moreover the system adopted for equal distribution of water through household connection manholes, is subject to contact with the surrounding, because water flow from the inlet, sub distribution pipeline, into the un tightly closed manhole, to several small diameter outlets, household connection pipelines.

5.2 Technical Overview of the Sanitation Component

The sewerage system was also built in Soviet times and consisted of a series of settling chambers, where wastewater and sludge were separated and then treated. Staff at the treatment plant controlled effluent quality and effluent leaving the plant was treated with chlorine, before being discharged to the river. Sludge was collected from the plant by vacuum trucks and taken away for disposal. The plant and collector system was installed in 1989, one year before the break up of the Soviet Union. Following the break up of USSR, the sewerage treatment plant was completely looted; with even rebar being stolen from the concrete settling chambers, rendering the plant totally unusable.

Existing wastewater drainage system:

- a- Waste water is collected from residences and public buildings by house connections to the near by manhole at the public sewer system; and
- b- Waste water flows by gravity through several hundred meters of under ground pipes and manholes to a approximately 10,000 PE waste water treatment plant
- c- Once treated the water is released into the river.

Rehabilitation project OGB scope of delivery:

- a- Supply and installation of corrugated PE sewage pipes diameter 150mm total length 150 LM, diameter 200mm total length 450 LM and diameter 300 total length 180 LM.
- b- Constructing 38 concrete manholes together with concrete covers.
- c- Rehabilitating of 10 deteriorated concrete manholes

Observations on the wastewater drainage system:

- a- The treatment plant is not functioning and in bad repair, and there is no sign for equipments usually used in such wastewater treatment plants, obviously this had been dismantled a long time ago, as we were informed during the evaluation. The local authorities, using the government budget, undertook the proposed work.
- b- The rehabilitation work carried out to activate one of the reinforced concrete tanks can't be considered as wastewater treatment, it's more likely untreated wastewater effluent tank.

- c- Poor access for the manholes will complicate the process for any future maintenance.
- d- No evidence of ventilation has been observed, lack of which might raise concerns for pressure fluctuations and possibility of foul air entering the buildings.
- e- The staff of the local water authority, Sanitary Epidemic Station, will carry operation and maintenance of the system.

5.3 Water quality analysis procedures

Khulo District has one public health laboratory for water quality analysis. The laboratory is located in the compound of the District Council offices. The techniques and the standards applied to water quality analysis date from Soviet Times. In fact, much of the equipment would appear to date from this time, requiring a lot of maintenance to keep it in working order, this is particularly true of the electrical incubator (coliforms tests) and the auto claves for sterilisation. Regarding the incubators, it is not known how accurately the temperature is controlled, but there would be doubts as to the precision given the condition of the equipment. The laboratory has the capacity to undertake the following microbial; chemical and physical tests; on water samples:

Microbial

- Total Coliforms (37 °C)
- Thermotolerant Coliforms (44 °C using e-coli as indicator)

Chemical

- Ammonia
- Nitrate
- Nitrite
- Total Chlorine (qualitative not quantitative)

Physical

- Turbidity
- Colour
- Taste
- Smell
- pH
- Temperature

The multiple tube process used by the laboratory to test for Total Coliforms is a laborious process, as samples are collected in sterilised bottles on a daily basis and analysed. Worldwide, the multiple tube process is gradually becoming obsolete, as more modern, more rapid techniques are developed. Total coliforms are *“primarily used for the assessment of the general sanitary of finally treated and disinfected drinking-water”*.¹⁰ Given that little or no treatment is taking place in the Khulo water system, and that the system is better described as a “rural water supply”, Total Coliforms are in reality of little significance in determining water quality.

A better indicator of drinking water quality is through the detection of thermotolerant bacteria, in this case Escherichia Coli (E-Coli). The Khulo laboratory has the capacity to detect E-Coli, but the technique used is purely an indicator method, so the amount of bacteria cannot be quantified. This is a big disadvantage, and the programme missed an opportunity to introduce a “recognised” quantitative technique such as membrane filtration. The Oxfam DelAgua kit is one such recognised low-cost, low-tech piece of equipment (see Annex XI), which would have been ideally suited to the Khulo context. Training

¹⁰ Microbial Aspects Notes – WHO Seminar Pack for Drinking-water Quality (WHO Publication)

in the use of the DelAgua kit would have been easy to arrange, and the kit would have provided a modern, cost-effective means of undertaking random drinking water quality surveillance for the Khulo District laboratory. The guideline¹¹ for the microbial quality of drinking water is “*E-coli or thermotolerant coliforms bacteria must not be detectable in any 100-ml sample*”. This is equivalent to the SPHERE indicator related to water quality. WHO guideline values are often equivalent to national standards, this is the case for Georgia.

Oxfam Delagua Kit

Regarding the other tests undertaken by the Khulo laboratory, pH, Temperature, Turbidity and Chlorine levels can all be measured using equipment from the DelAgua kit, (see Annex XI). The swimming pool tester from the DelAgua kit is a big improvement on the chlorine test currently performed in Khulo, as again, the test performed is only qualitative and not quantitative. A swimming pool tester (or a number of them) would have been very beneficial for the Khulo staff operating the water system, as it would allow them to identify residual chlorine levels at various points in the system. Swimming pool testers are very cost-effective (see Annex XII). Providing enough DPD tablets are supplied, one year’s daily testing would cost GBP 0.04 per test, or GBP 68.62 per year¹². The Delagua kit itself, is also a very cost effective piece of equipment, Table 3 below shows some typical costs for the Delagua kit consumable for various testing regimes:

Testing Regime (days/year)	No. Tests per day	Yearly cost (GBP)
365 days per year	5	586,74*
365 days per year	5	404,23**
365 days per year	3	242.54**
261 days per year (5 days/week)	5	289.06
261 days per year (5 days/week)	3	173.44

Table 4: Yearly Consumable Costs for Use of an Oxfam Delagua Kit

* Cost based on purchase of a complete FK3/3 kit.

** Cost based on purchase of FK3/3 kit (minus DPD no 3 & Phenol Red).

A trained water quality staff member can detect taste, colour and smell with no equipment. The usefulness of measuring Ammonia, Nitrates and Nitrites on a daily basis is of very limited use, and it would be much more cost-effective for the laboratory to measure such parameters on an occasional basis. Again the equipment witnessed in the Khulo laboratory is old and antiquated. The Khulo programme provided an opportunity to replace old equipment; unfortunately the opportunity was not taken. Oxfam has developed a simple chemical testing kit, which is modular in design, (see Annex XIII).

5.3 Review of the Tendering Process

- a- All information received from discussions with OGB HPO, GRC Head of Batumi branch, Head of Sanitary Epidemic Station Khulo.
- b- Request for bid method is used, open tender.
- c- Invitation to tender has been announced on local radio station.

¹¹ WHO Guidelines for Drinking-water Quality, 3rd Edition. – WHO Publication, 2005.

¹² Based on 5 tests per day, 365 days per year. – 1-pack DPD no. 1 tablets costs £ 9.40 for 250 tablets.

- d- Eight contractors expressed interest and submitted their bids.
- e- Given certain requirements, the bids have been eliminated to “short list” of the best three bids.
- f- By GRC head office in Tbilisi decision, the best bid of Poni Ltd, contracting company, has been awarded the job.

Observations on the tendering process:

- a- The method is fair, impartial and competitive but could have been more visible.
- b- There has been no review of tender documents like invitation to tender, instruction to the companies tendering, form of tender, general conditions, particular conditions, other conditions, specifications. These documents are shown in Annex XIV.
- c- What we have been able to see is only drawings and general bill of quantities.
- d- Shortage in the availability of such documents usually lead to delays, extra costs, disputes and some times legal action.
- e- Lack of information about the selection process and criteria for selection, made it difficult to assist the objectivity of the tender process. (See Annex XIV)
- f- The owner of the construction company Poni Ltd, is the head of the Sanitary Epidemic Station “the governmental utility responsible for operating and maintaining the water system” this issue addresses concerns regarding conflict of interest and confidentiality of information during tender stage; also during and after execution like change orders, preliminary taking over of the works, the maintenance guarantee period and the final taking over.

5.5 Review of the Contractors Work

- a- Despite the difficult access road conditions in addition to closers due to floods, earth slides and snow the contractor did manage to finish the work on time.
- b- The final taking over certificate has valued his work as excellent,
- c- Due to lack of specifications and tender documents it is difficult to evaluate the contractors work because it should be measured against strict specifications and conditions.

6.0 Review of the software Components

6.1 Stakeholder consultation and participation

During the evaluation period of the Khulo flood response programme, several meetings have been conducted with the main stakeholders who directly or indirectly have been involved in the disaster relief activities.

The Role of International Organizations

During the last decade, significant efforts were exerted by international organizations to build sustainable national disaster management capacities, including institutional and organizational strengthening, training and public awareness on disaster preparedness, prevention, mitigation, response, policy development, legislative, regulatory, and management framework, and the support of technical capacities. At present, the interested players in this area are the UN Development Programme (UNDP), Swiss Agency for Development and Cooperation (SDC), the US Government under its State Partnership Programme, NATO's Partnership for Peace framework, the World Bank, and French Government.

In addition, since early 2002, the International Disaster Management Team (DMT), led by the UN, and consisting of relevant UN agencies, international NGOs and several donors, has helped to facilitate a prompt response by the international community in events of disaster or emergency. The DMT has been activated several times in Georgia and has provided support to the Government in mitigating the consequences of disaster. The DMT member agencies provided immediate relief aid to the affected population, undertook joint needs assessment, and assisted the Government in appeal preparation. However, the DMT still lacks a clear cooperation mechanism, such as a Memorandum of Understanding (MoU) with the Government on a wide range of disaster management issues. This is partly due to frequent changes and restructuring, lack of clarity on seniority or the authority of the counterpart, and sometimes lack of responsibility on specific issues of a single Governmental agency.

This year, floods have generated additional aid from various donors. Under the DMT framework, emergency relief aid was provided by various international organizations to the victims of floods in West Georgia. Due to the unclear cooperation mechanism with the Government, the DMT and other interested donors have experienced some constraints in obtaining accurate information on priority needs, or identifying a formal counterpart. On the other hand, the Government was helpful in providing logistical support and solving specific problems related to delivery of relief aid and import of supplies.

Many donor countries have also provided emergency assistance in response to the floods in 2005, mainly through NATO's EADRCC network where the ESCSS played a significant role to mobilize humanitarian aid.

For this particular case Oxfam has allocated GBP 99,465 (Lari 313,315) for the construction of L=1800m of D=100-300 mm pipeline of water system, construction of sewage system L=600m of D=150-200mm pipes and construction of roof over the water treatment plant.

6.2 The role of the Red Cross

An MOU has been signed between Oxfam GB and IFRC Geneva. The objective of this MOU is to strengthen Oxfam/IFRC cooperation in the provision of water supply, sanitation and hygiene promotion services in emergency situations around the world. Its scope includes preparedness planning, rapid response and support to the transition from emergency to development

programming. This MOU seeks to improve timely and effective interventions by promoting synergies and greater coordination between Oxfam and IFRC. In the past 5-years, Oxfam has participated closely with International Federation of Red Cross and Red Crescent Societies in a number of emergency responses. Examples include; Turkey Earthquake (1998); Belize Hurricane Keith (1999); Venezuela Mudslides (1999); El Salvador Earthquake (2001); Santa Fé Floods, Argentina (2001); Bam Earthquake, Iran (2004). Oxfam also collaborates closely with IFRC on a number of projects aimed at disseminating best practice, as well as conducting proactive research and organising joint training sessions at a technical level, particularly in the watsan sector. IFRC through their national member societies can provide an ideal vehicle at local level to deliver humanitarian assistance. As a result, a Memorandum of Understanding (MoU) was established globally between Oxfam and IFRC in 2005.

Following the floods in Western Georgia, the OGB Office in Tbilisi signed a contract with the Georgia Red Cross Society (GRCS), agreeing a joint response to meet the needs of the affected community. Overall the role of GRCS is resumed by the following:

- Technical assessment of the existing water and sanitation system in Khulo region including neighbouring 6 villages. Mentioned 6 villages are supplied with potable water from the same water system, which provides water to Khulo regional centre.
- Organisation of bidding for the selection of a construction company to conduct the rehabilitation and construction work of watsan system.
- Signing contract with the selected company.
- Order of the design and volume of works to be conducted.
- Mobilization of the communities in organizing of construction works.
- Follow up and monitoring of the construction process.
- Reporting to Oxfam Tbilisi office.
- Contribute to a coordinated response with clear delineation of responsibilities (e.g. for water and sanitation service provision, hygiene promotion and operation and management).
- Sharing of information and resources to improve emergency Public Health training programmes for national partners and for Oxfam and IFRC staff members including Red Cross and Red Crescent staff and volunteers, where appropriate, with a focus on improving preparedness planning and efficient response.
- The organizations will share information on the content, development and implementation of training packages and provide access to other party's technical staff when possible or appropriate.
- Share baseline data and monitoring data in a timely manner so that the programme adjustments can be made where necessary.

6.3 The role of the Georgian Red Cross Society

Put in this context, Oxfam's choice of working through the Georgian Red Cross Society would seem both logical and desirable, as the RC voluntary branch structure is very much suited to providing humanitarian assistance. The Georgian Red Cross Society (GRCS) has undergone a number of drastic changes in the past 5-years, resulting in the appointment of a Secretary General who experience as an international delegate with IFRC. This has resulted in the GRCS adopting a community-based approach to their activities in Georgia, be they disaster preparedness activities or health and social activities. Although the restructuring process within the GRCS is still on going,

IFRC are present in Georgia, and are actively supporting GRCS in building a stronger institution. To date, much of the IFRC support has been focussed on governance and management issues at a central level, but the organisation is now considered to have a very strong administrative core at a Tbilisi level, in particular the finance monitoring system is considered both effective and appropriate for Georgia. In the near future, IFRC along with GRCS will focus more on branch structures, creating model branches, and delivering community based programmes to the most vulnerable. Core activities will include; Dissemination work; Tracing; Disaster management. After, branches will develop their own specialities, with all branches receiving training in; the branch structure; management; finance; and the project planning process (PPP). At a central level, GRCS now has a health and social programme coordinator. Training of Trainers (ToT) workshops are now given to braches who have active community based programmes. Information booklets and other training materials are produced centrally for use within the organisation. Typically, water and sanitation is not a core activity of the GRCS.

During the floods in April 2005, GRCS played an active part in the Disaster Management Team (DMT). As a result IFRC deployed a FACT¹³ to assist with the flood assessment in the various regions affected in Georgia. As a result of the FACT assessment, GRCS started a water and sanitation programme in Oni, which in many ways is similar to the Khulo intervention. Again, a watsan engineer was recruited for the programme in Oni, with the technical works being part financed by local government and GRCS. Some difficulties have however been experienced with the project due to political changes within the government structure. However, on the whole, this type of response activity is seen in a very positive light within the GRCS. The Khulo intervention is also seen positively within both IFRC and GRCS at a Tbilisi level. Based on discussions with IFRC Head of Delegation, in Tbilisi,

“Oxfam should continue to support and work closely with GRCS in 2006”!

6.4 The role of Government

Government was involved at various levels, and at various times. The section below considers the role of the national government and the role of the local government structures.

The Role of the State Government

In the past, the Department of Emergency Situations and Civil Defence (DESCD), under the Ministry of Internal Affairs (MIA), was responsible for emergency response on the operational level. The DESCDC had regional branches throughout Georgia, and the Rescue Base was located in Tbilisi. The National Guard had similar functional obligations to the DESCDC, though the division of duties, responsibilities, and mutual cooperation of the two structures (DESCDC and National Guard) were not well defined. In emergency situations, other Governmental agencies were getting involved with no clear lines of responsibility, also creating parallel structures. It is noteworthy that supposedly the main level coordinating body was the Standing Commission of Emergencies and Civil Defence under the National Security Council, but it was rarely activated. As a result, in practice the system did not work effectively, and overall there has been non-compliance with regulatory procedures for crisis management. Due to the internal restructuring of the Ministry of Internal Affairs on 21st July 2004, the DESCDC was dissolved by Ministerial decree.

Thus, at present, the Emergency Situations and Civil Safety Service (ESCSS) is the primary operational level entity for emergency response. It was

¹³ Field Assessment and Coordination Team

established in December 2004, the statute of the ESCSS being defined as being under the Ministry of Interior. The decree mandates that the ESCSS will assume overall coordination of response in case of natural and technological disasters.

At the same time, the Regional Policy and Emergency Affairs Service at the Prime Minister's Office has played a significant role in overcoming the consequences of this year's floods/landslides. This Service is responsible for the overall coordination of disaster response between the different levels of the central and regional governments. This was crucial in addressing needs after the spring floods, and served as the only senior level decision making body. Later, after similar flooding in western Georgia in September and October 2005, another ministerial commission was created to identify priority actions for strengthening riverbanks.

For the rehabilitation of the disaster zone particularly the construction of water catchments, rehabilitation of sewage system and construction of water pipeline and water treatment plant in Khulo, the Georgian government allocated 280,000 Lari.

The Role of Local Government

During programme implementation, one of the key stakeholders was the local government. During the whole programme cycle, local government was involved in the main activities, beginning with the initial assessment, through programme implementation, and up until programme evaluation and hand over. The main responsibilities of the government were as follows:

- Immediate response to disaster victims, including evacuation, life saving, shelter, food distribution and hygiene promotion.
- Assessment of the results caused by the flood.
- Spread of information to attract possible donors and aid agencies.
- Provide technical and financial support to overcome and mitigate the flood results.
- Implement relief and development activities, rehabilitation and construction of infrastructure, watsan systems, etc.
- Maintain and deliver exploitation of rehabilitated local infrastructure, such as water catchments, reservoirs, sewage pipelines and purification station.

Provide continuous monitoring of water quality by analysing the water at the point of consumption.

6.5 Public health promotion

The public health promotion component was still on going at the time of the evaluation. The component consists of a number of volunteers from the community. Firstly, 5 principal volunteers were selected from the Khulo area. These 5 volunteers were given training in Tbilisi (ToT workshop), before returning to Khulo. In Khulo, each of the 5 volunteers was given the task of holding a workshop for 25 people, based on the techniques learned in Tbilisi. The 25 people trained in Khulo were then tasked with becoming familiar with the training materials and then contacting 100 representatives from the community. Each representative from the community would then be asked to fill in a questionnaire (see Annex XV). The 25 volunteers would provide information and booklets to their fellow villagers, and record the number of people visited! The GRCS Batumi branch provided logistical support for the training process, and was otherwise not involved. The initial training workshop

was given by GRCS in Tbilisi. In total, GRCS and Oxfam printed 4,000 booklets, for distribution to the community. At the time of the evaluation, the booklets had just been printed in Tbilisi, so hadn't yet been distributed.

In the New Year, a similar process will be adopted to evaluate the impact of these activities. Again, 5 volunteers will travel to Tbilisi, receive training, and then return to Khulo. The 5 principal volunteers will then ask the 25 volunteers to fill in questionnaires. The same 100 community members will then fill in the questionnaires. The GRCS Coordinator for Medical and Social Programmes in Tbilisi will then analysis the materials sent from Khulo.

Educational Materials

The core of the PHP activities were planned around two booklets jointly produced by GRCS and OGB (see Annex XVI), in the Georgian language. The booklets are A5 size, and cover the following topics:

- First Aid and Health Issues (approx 90 pages)
- Community Disaster preparedness (approx 10 pages)

Both booklets are very similar, in terms of quantity of text and form, to other information materials common in Red Cross projects throughout the world. In Georgia, similar booklets are used by the GRCS at a National level for their community-based activities.

The First Aid Health booklet covers a wide range of topics, including nutrition, goitre, hygiene issues, and diarrhoea amongst other things! This particular booklet is quite long (around 90 pages), and the text is quite dense. There are also very few diagrams in the booklets. Literacy levels in the Adjara region are unknown? However, the particular booklet produced would be unsuitable for communities where literacy levels are low. No supplementary materials, such as leaflets of posters have been produced, and the diagrams in the booklets have been merely downloaded from Western Europe and US literature.

Training Methodology

During the evaluation, it was possible to briefly attend one of the training workshops, focussing on health and first aid. The workshops are currently being in the main school in Khulo. 30 – 40 participants attended the workshop visited. The majority of the workshop participants were women, some of who were accompanied by young children. A few men were also witnessed in the workshop. The age groups attending the workshops would appear to be mixed. Principal volunteers, who in general, are health professionals, were giving the workshop. The teaching methodology observed used a traditional "top down" approach, where the facilitators repeat sections from the booklet in a rote manner, questions being asked at the end of each topic.

Programme staff did however indicate that the training sessions also included group work and discussions. For example, in the flood training group work, the group was asked to:

"Define the manmade or natural factors contributing to floods".

Due to the short time available, it was not possible to verify if such participatory methods were indeed being used. However, in the workshop observed, opportunities for participants to be actively involved appeared limited, being reserved for those who feel comfortable speaking publicly.

After each seminar, the training sessions given will be evaluated using a form that will be filled in by each participant (see Annex XVII). Unfortunately, as the seminars have only just started, it was not possible to identify results during the evaluation.

6.6 Gender and vulnerability

The project targeted 6,400 men, women and children, as the people to benefit from the technical activities. Having reviewed the outputs of the project, men, women and children did indeed benefit from the technical works, as the project was aimed at individual households. As such, old people, disabled people and female-headed households will also have been included, if their household fell within the project catchments area, as there were no extraordinary requests (i.e. hard, voluntary physical labour) placed on community members in order to be included in the project (i.e. a water connection or a sewerage connection in central Khulo). However, the fact that the project included men, women, children and vulnerable groups is more by chance rather than design!

In terms of participation, the role of the community is less pronounced, given the type of technical work undertaken. The clear majority of inputs were in terms of paid daily casual labour. The nature of the work (hard and physical) excluded women from participating, as culturally, hard physical labour is for men and not women, the community on the whole is also Muslim! Apart from the opportunities for paid daily casual labour, there would appear to have been little or no consultation with the community at the design and planning phases of the project. The local authorities, the contractor, or the Red Cross took decisions centrally about the technical work. Programme staff report that,

“Opportunities for discussing the issues related to the management and sustainability of the water system have been considered”.

“Subsequently, a group of 12 people have been made responsible for the monitoring and maintenance of existing water supply system.”

However, it was not possible to confirm this during the evaluation. Opportunities were possibly missed to discuss the management and sustainability of the water system for example.

Regarding the public health promotion component of the programme, again there would appear to be minimal consultation about the design and implementation of the hygiene promotion and preparedness activities! The training curriculum and materials were selected by the Red Cross, based on standard Red Cross training modules, and taking in certain health problems (e.g. Goitre) that are endemic in the area. No problem solving or participatory techniques were employed! Due to the way that the training is run, it is also more likely to benefit those people living in central Khulo rather than the outlying villages. Arguably, the more vulnerable groups may be in the outlying areas but we have no way of checking this.

The training session witnessed in the school indicated that a higher proportion of women participate in educational activities than men. This may be considered positive given that the women are the ones who look after children. However, looking at the programme holistically, there are clear gender divisions; with men involved in technical work; and women involved in software activities. The programme did not challenge these pre-established divisions of tasks, nor did it seek to try and challenge them!

During the evaluation, for cultural reasons, it was not possible to fully consult with female beneficiaries, particularly in their communities, as the evaluation team was all male, and there were no female translators. The only brief opportunity to seek feedback on the programme from women occurred at one of the training workshops. However, this was unplanned, and limited, as it was not possible to distract people's attention for a long time.

7.0 Review of the Programme Management and Accountability

7.1 Overview of Programme Management within OGB

In terms of project management, the Oxfam GB office in Georgia employed on Humanitarian Programme Officer (HPO), with previous experience in NGO sector. The HPO made regular field visits (bi-monthly) to Khulo District, to meet with the project partners, including both GRCS and the local authorities. The HPO was responsible for checking all aspects of the project, including technical works, the software components, production of printed materials, finance and other administrative aspects of the programme. The HPO was also responsible for contacts with UN and GRCS at capital level, including following the bidding process for the appointment of a contractor.

The HPO reported directly to the OGB Country Programme Manager in Tbilisi, and made regular trips to Khulo District, each trip lasting 4-5 days. A trip report was made following each trip. In total, 7 reports were made (to date), an average of 1 report every 3-weeks. In total, 8% of the planned project budget (GBP 8,490) was allotted to cover Oxfam staff and logistic costs in country (see Annex III).

Points for the future:

- Ensure humanitarian staff that are new to Oxfam GB have a full induction (i.e. KOO course), and that they are aware of the role of HD as a support mechanism.
- Trip reports submitted could have followed more closely the “situation report” format given in the Oxfam ERM¹⁴ (see Annex XVIII). Ensure sitreps are correctly archived and available for potential evaluations.
- Monitoring should be considered more holistically. Quite a lot of attention was paid to monitoring the progress of the technical work, but little attention was paid to monitoring the impact of the programme on beneficiaries. For example, some health data could have been collected from the health centres (see planned logical framework indicators)?

7.2 Overview of Programme Management within GRCS

During the evaluation period a four-day field visit was made to Adjara. The evaluation team visited the GRCS branch office in Batumi. The office owned by GRCS in Batumi is composed of 2 - 3 rooms with the core (paid) staff of 4 people. The office was established in 2001. The branch secretary in Batumi, Otar Davitadze, is a board member of the GRCS. Being a devoted personality he has played the main role and took responsibility to lead the rehabilitation of infrastructure of Khulo region affected by the flood.

Staff members were not involved in the main activities of flood respond. According to the statement made by the branch secretary, the main activities conducted by GRCS Batumi to respond the disaster in Khulo was distribution of blankets, hygiene kits and food parcels, but only after 4 months of the disaster? Though there was an established reporting system, the observations showed that the monitoring of relief activities was not undertaken in a structured manner. This could either be a result of low capacity in the office, or a lack of training on the correct procedures for staff.

However, there appears to be confusion on this point, as the programme staff report that the distributions were in fact related to a forest fire, where 8 houses were burnt down? Looking at this logically though, such large-scale distributions would seem out of proportion to the problem (i.e. 8 houses burnt

¹⁴ Oxfam Emergency Response Manual

down)? The evaluation team continues to consider that the distributions referred to by the Batumi branch are indeed related to the April floods?

Technical capacity the office was very weak also. There was no evidence of the usual necessary office equipment that one would expect to see in an operational RC branch, such as computers, copier etc.

7.3 Review of Good Practice and International Standards

It is difficult to comment as to whether or not SPHERE standards were applied in this particular programme? Due to the general, and vague” nature of the logical framework, no meaningful indicators were selected, which would allow compliance to SPHERE to be measured.

Practically, some of the common SPHERE indicators for water supply, if applied, would have been useful even on a rehabilitation project of this type. In particular, the indicator for microbial quality, and the distance to a water point would have been appropriate. The indicator for water quantity (15 l/p/d) is not an appropriate indicator for a gravity water supply like the one in Khulo. Here, it would be better to use national standards for rural water supplies. Other indicators, for public health promotion and gender were not used. Again, such indicators would be useful to measure programme impact, if they had been selected! Selected SPHERE minimum standards common to all sectors, (see Annex XIX), would be useful to include from the planning phase.

Regarding other guidelines for good practice and codes of conduct, again it would be difficult to comment as to whether any particular guidelines were followed specifically, as again there is no reference to such guidelines in the project planning phase? However, equally, there is no evidence of such guidelines not being followed.

Point for the Future

- Such a programme would benefit from an awareness training session at the beginning of the project cycle, aimed at both introducing the relevant guidelines/codes of conduct, and also highlighting methods of including/monitoring such principles in practice.

7.4 Programme Accountability

According to the contract signed between the OGB Georgia office and the GRCS field reports should have been done in accordance with the agreed timetable. Payments by OGB were done after additional checking of the reports made by the contractor and the GRCS. For this reason, the responsible Oxfam staff member made several field visits - twice a month to check the progress of construction works and to make its recommendations, conclusions and reports. Payments to the contractor have been made only after Oxfam had given approval.

Regarding the decision making process, and reporting on the achievements made by the project, there is little or no evidence that the beneficiaries participated in such processes? Based on the discussions held with Oxfam HPO, GRCS in Batumi, the government officials in Khulo, and the contractor (“PONI LTD”), it would seem that all the key decisions were taken between these “four key groups”. There is no documented evidence either of participatory planning sessions, or public feedback sessions being undertaken by the programme. Again, such participatory activities should be designed into the log frame. Appropriate indicators and means of verification should then be selected, as this will allow better monitoring of participation. Documenting community feedback sessions is an important part of the monitoring process.

8.0 Implications for OGB Emergency Response in Caucuses

8.1 Lessons learnt from the flood response programme

Based on the information collected, and observations made during the evaluation process, the following key points may be considered as some of the lessons learnt during the flood response programme:

1. Oxfam Georgia was an active and respected member of the DMT in Georgia. OGB should continue to participate in the DMT, both in a reactive and preparedness capacity.
2. Oxfam Georgia would have been able to respond more quickly to the floods, if they had had dedicated humanitarian staff at the time of the floods. Dedicated staff should be seen as an effective means of disaster response preparedness (DRP).
3. Oxfam could strengthen induction procedures and staff training for humanitarian staff through use of the KOO course and through selected staff training sessions. Better knowledge of the ERM, and the relevant ERM procedures would be beneficial to developing a DRP. Such knowledge could be shared with GRCS.
4. The type of rehabilitation project undertaken in Khulo is classic in terms of scope and implementation constraints post-flood. Such projects clearly impact positively on the well being of population in the long-term, however, issues related to sustainability, community participation and gender need to be thought through more thoroughly.
5. More effective use could be made of the logical framework as a planning tool. The initial indicators for the flood response were weak, but unfortunately these were not revised when the programme was implemented. Better indicators will improve monitoring, and ultimately show project impact more clearly. Oxfam Georgia should consider running a monitoring and evaluation workshop for staff at a future date. Such training could be shared with GRCS.
6. Oxfam Georgia staff would benefit from a better understanding of Oxfam's public health approach to emergencies, and the interaction between engineering, hygiene promotion, gender and community participation. Oxfam Georgia should consider running a training session for staff at a future date; again, training could be shared with GRCS.
7. More effective use could be made of the logical framework as a planning tool. The initial indicators for the flood response were weak, but unfortunately these were not revised when the programme was implemented. Better indicators will improve monitoring, and ultimately show project impact more clearly. Oxfam Georgia should consider running a monitoring and evaluation workshop for staff at a future date, with again, training shared with GRCS.
8. The choice of GRCS as a partner was an appropriate choice for the Khulo flood response. The GRCS is particularly suited to activities related to its branch structure, its volunteer base, and its core programme areas. Oxfam should continue to support GRCS as a partner, to identify key competencies at the various GRCS branches, and to identify opportunities for disaster response training.

8.2 Possibility for replication in Georgia and other CIS countries

Similar flood response programmes can clearly be replicated in Georgia and in other CIS countries in the future. However, it is important to learn some of the key lessons from the Khulo response, and to apply those lessons within a

general framework for the CIS region. Points to consider for the general framework include:

1. An Oxfam humanitarian focal point in each country is important.
2. Ensure Oxfam is represented in disaster management structures.
3. Establish a database of partner competencies for each country.
4. Identify the main disaster/emergency risks in each country.
5. Identify opportunities for training in key disaster response skills: i.e. disaster management; project planning skills (logical framework; knowledge of SPHERE; knowledge of Oxfam (ERM, PH health approach); knowledge of participatory approaches; and knowledge of monitoring and evaluation.
6. Establish a database of training competencies (through partners) within the region, and investigate how this may be strengthened through targeted training inputs.

8.3 Opportunities in Disaster Response Preparedness in Georgia

The main risks in Georgia are well known (earthquakes, floods and periodic drought). Oxfam would also seem to be well represented in structures such as the DMT. The main opportunities to improve DRP in Georgia would appear to be based around getting to know partner's skills and competencies better. After undertaking a capacity analysis of a partner, Oxfam could propose selected training based around disaster management, but also focussing on some core skills such as the use of SMART¹⁵ indicators and monitoring procedures. Greater knowledge of emergency response tools, such as ERM, SPHERE and participatory techniques would be very beneficial to both partners and Oxfam staff. Partners and Oxfam staff should be familiar with the Oxfam public health approach, in particular the role of PHP and gender within an integrated programme. Familiarity with the Oxfam equipment catalogue and the various emergency kits would also allow more informed choices to be made in the future if necessary. Lastly, identify skills that exist already in CIS region? Who could assist with support on specific issues? There would seem to be a wealth of experience to draw upon.

¹⁵ Specific, Measurable, Achievable, Realistic, Time bound

9.0 Main Conclusions of the Evaluation Team

- The type of rehabilitation project selected by Oxfam in Khulo would seem to be appropriate in terms of responding to post-flood needs, and in terms of selecting an operation strategy to implement such a project through partners and in collaboration with key stakeholders.
- Overall, it has been difficult to measure the impact of the activities on beneficiaries. This was due to a weak log frame (poor indicators) at the beginning of the project cycle. Opportunities were missed to revise the log frame, and the monitoring that did take place could have focussed more on issues other than the technical work.
- Coordination with key stakeholders such as government (national and local), United Nations (as member of DMT), GRCS, IFRC and other NGO's appears to have been a strong point of the programme. Cooperation with local government has been particularly good, with the overall cost of the programme being shared on a 50/50 basis.
- Although there was good cooperation and coordination between key stakeholders, the role of the communities themselves was less positive. Future programmes of this type should ensure that beneficiaries are included more in the planning process, and that there is "accountability" in terms of feeding back information to the community.
- The role of women and children in the Khulo programme could have been strengthened, especially by involving them more in the decision-making processes. Although the participation of women was very strong in the PHP seminars, their role in other aspects of the programme appears to be less pronounced. During the evaluation, it was not possible to include women as much as hoped (for cultural reasons) in the evaluation process; a more gender balanced evaluation team would have been more appropriate. The log frame could also have been more gender appropriate.
- As a partner organisation for OGB, GRCS is ideally suited to conducting PHP activities using a community-based approach? PHP activities are ideally suited to the volunteer structure of the Red Cross. However, if such experiences were to be repeated in future, it would be worth Oxfam and GRCS investing in more planning and training inputs at a central (Tbilisi) level, to then be cascaded down to the branches.
- The public health promotion activities have started very late in the project cycle, and could almost be considered a "add on" to the main rehabilitation activity. The reason given by the programme staff is that;
 - “Khulo is a high mountain area and in winter time there is a lot of snow, making construction work extremely difficult”.
 - “For this reason, construction work became paramount, which is why the PHP training sessions were scheduled to start on completion of the technical work”.
 - “In addition to this, the population were very busy with their harvest activities, meaning it was difficult to get them together for the PHP activities”.

These arguments are not convincing, however, as it is common in many Oxfam programmes worldwide for beneficiaries to be busy with their family and their livelihood activities. Generally, ways are found to integrate PHP activities effectively from an early stage, in line with Oxfam's PHP approach.

- The approach taken for PHP activities is felt to be too top down, and there are questions about the suitability of the training materials? Were literacy rates in the community been considered enough? More disaggregated baseline information was required to assist in setting beneficiary selection criteria. There was little provision for measuring the impact of the PHP activities, and the impact of the training is difficult to observe in the short run; it may become evident in a future natural disaster, but difficult to prove at this stage.
- The RC branch in Batumi could have been used more efficiently by focussing on the software components of the programme. Software activities should start in a timelier manner and more resources (HR and finance) could have been dedicated to the software component.
- An opportunity was missed to introduce the Oxfam Delagua kit and some other basic water testing equipment into the Khulo public health laboratory. By providing such equipment, the action would have not only improved the quality of the laboratory service, but also provided valuable quantitative data for measuring the impact of the Khulo programme.
- In future programmes of this type, there be more careful analyse of who is responsible for hiring technical staff. In the Khulo programme, programme efficiency may have been increased if OGB had hired the water engineer! This would have meant that GRCS could have focussed more on community participation and promotional activities. For Oxfam, the technical output would have probably been the same, and it would have freed up the HPO to focus more on the reporting and general monitoring aspects of the programme.
- Regarding the technical component of the programme, due to lack of specifications and tender documents it was difficult to evaluate the quality of the contractors work, as it should be measured against strict specifications and conditions. It was noted that there were a number of undocumented changes from the original design due to time/financial constraints were also. The quality of some of the “structures”, resulting from these changes, is questionable both in terms of effectiveness and in terms of durability. More care should be exercised on such issues in the future.
- The livelihood component of the programme, the unskilled casual labour used in the construction of the water and sewerage systems, could have been undertaken in a more structured way. Ultimately, the contractor hired daily “unskilled” labourers. No selection criteria appear to have been applied, and women appear to have been excluded, because the work was considered too physical. No accurate records were kept of people benefiting from such work. Monitoring such cash-for-work activities could be improved.
- Opportunities were missed to incorporate emergency water supply activities in the response. During the evaluation, the hospital in Khulo reported they had been without a reliable water supply for a number of weeks! The programme made no attempt to meet such immediate needs, which in technical terms may be fairly easy to solve. In the case of the hospital, a temporary water tank could have been set up in the compound, and arrangements made with the authorities to fill the tank regularly from a good quality source. Hospital staff could have been trained to mangle and chlorinate the water point!
- Lastly, the decision to omit the 20 family latrines and to replace these with the communal toilet at the District Administrative centre would appear to have been a “last-minute” cosmetic activity. It is not possible to quantify the impact of the action on the health of the population as a whole. There is no evidence that this was a planned activity, with planned indicators.

Main Recommendations for the Future

- Oxfam and GRCS/IFRC should consider a joint participatory evaluation of both the Oni and Khulo programmes. Methodologies similar to those given in the World Bank document, “Participatory Evaluation Tools For Managing Change In Water Supply And Sanitation (see Annex XX), could be used, and the workshop tailored to the budget available. Such a workshop would provide joint “lessons learnt” from both programmes.
- Oxfam GB should consider GRCS as a strategic partner for future emergency responses. As a result, OGB should work closely with IFRC to identify common goals in terms of building GRCS capacity. Any future capacity building inputs should be coordinated, to avoid duplication, and wherever possible, OGB inputs should be undertaken with the direct support of the relevant GRCS structure at a central Tbilisi level.
- In future, more suitable standards and indicators for *participation* should be selected for the log frame and programme design. As a preparedness exercise, OGB/GRCS could plan and implement a SPHERE training session (or sessions), at various levels of GRCS, as well as inviting other potential partners. Training should include not only the well-known standards and indicators (e.g. HP/Watsan), but also the less well-known General Standards (see SPHERE Manual, Chapter 1, p21 – p47).
- To improve programme management and accountability, the following is recommended for building capacity of local partner (GRCS)
 - Provision of computers and other necessary office equipment
 - Provide training on programme management and programme cycle
 - Develop tools for programme management and monitoring
 - Organise exposure visits to share experiences and good practices
 - Organise appropriate staff training on disaster management.
- As a preparedness exercise, Oxfam Georgia should conduct a SWOT¹⁶ analysis of Red Cross branches with GRCS in Georgia. This would allow OGB to identify the skills available in the various regions, and to tailor their support to a particular RC branch. The same process could be applied to assess the availability of other local partners, criteria being developed to select such partners, and eventually a register being established.
- OGB, as global lead in water and sanitation, should consider planning training inputs with the GRCS on use of participatory methodologies, such as PHAST¹⁷ or SARAR¹⁸! A dedicated ToT team could be formed at a central (Tbilisi) level, and a training curriculum could also be designed. This would fit well with the current GRCS structures. Also, it would be worthwhile for the OGB office in Tbilisi to invest in a number of books and manuals on participatory approaches. A list of possible options is given in Annex XX.
- In future technical programmes of this type, more care should be exercised to ensure that the technical component is clearly documented, and that the contractor is working to tight specifications. Outputs are then easily identified, allowing better judgement of the quality of work.
- In future, seek opportunities to add value to programmes! For example, Oxfam could have contributed both in terms of specialised equipment and knowledge

¹⁶ Strengths, Weaknesses, Opportunities and Threats.

¹⁷ Participatory Hygiene And Sanitation Transformation

¹⁸ Self-Esteem, Associative Strength, Responsibility, Action Planning, and Resource.

through the introduction of a Delagua kit in Khulo. This would have impacted positively on the quality of the service provided by the public health laboratory, and also provided a verifiable source of data to measure the impact of the activities. Such initiatives create opportunities to share knowledge with other programmes in CIS countries (i.e. Armenia, where there are Oxfam partners with knowledge on use of Delagua kit).

- Cash-for-work is ideally suited as a livelihood compliment, to technical rehabilitation projects of this type. In future, Oxfam (and GRCS) should establish firm criteria for selecting cash-for-work beneficiaries. Where possible, women should also be considered as potential beneficiaries, however, this requires careful selection and monitoring to ensure both men and women are physically suited to a particular task. The reporting and monitoring of cash-for-work activities should also be more systematic, through the use of SMART indicators, and better monitoring of the process. The Oxfam book, “Cash - Transfer Programming in Emergencies”, (see Annex IX), would be a useful guide to setting up such a system.
- Emergency water supply is an important component of any emergency programme. Such rehabilitation projects should be preceded by appropriate emergency activities, if required. Oxfam Georgia should consider organising an emergency watsan training workshop with GRCS. The course could run for 4 – 5 days, and be similar in content to a joint Oxfam/IFRC workshop that was run in Panama in June 2003. Such a workshop could create a networking opportunity for OGB partner organisations from CIS, and would also be complementary in terms of the global MoU established between Oxfam and Red Cross. Costs could be shared, and the workshop would highlight simple emergency measures that can be undertaken following a major flood.

Bibliography

1. Flooding and Landslides in the Republic of Georgia: Consolidation of Assessed Needs and Options for Oxfam GB. – Godfrey Lokuju, June 2005.
2. UNDAC Mission to Georgia, Assessment of National Disaster Response Capacity. - UN, Office For The Coordination Of Humanitarian Affairs, 6 - 17 June 2005.
3. Humanitarian Situation And Transition To Development 2006, Georgia, Consolidated Policy Recommendations. - UN, Office For The Coordination Of Humanitarian Affairs, November 2004.
4. Georgia after the Rose Revolution: trends and dynamics. - Oxfam Briefing Note, Oct. 2005.
5. Evaluation of Oxfam Georgia's Flood Response Programme, Khulo District, Republic of Georgia, 12th -16th December 2005, Terms Of Reference. – OGB Internal Document.
6. Appraisal of partner organisation, The Red Cross Society of Georgia - OGB Internal Document.
7. Success Indicators - OGB Internal Document.
8. Field Visit Monitoring Reports (visits 1 to 7) – OGB Internal Documents

[Annexes removed]

© Oxfam GB 2006

First published online by Oxfam GB in 2010.

This document is part of a collection of programme evaluations available from Oxfam GB in accordance with its evaluation policy.

This document was originally written for internal accountability and learning purposes, rather than for external publication. The information included was correct to the evaluator's best knowledge at the date the evaluation took place. The views expressed in this report are those of the author(s) and do not necessarily reflect Oxfam's views.

The text may be used free of charge for the purposes of advocacy, campaigning, education, and research, provided that the source is acknowledged in full. The copyright holder requests that all such use be registered with them for impact assessment purposes. For copying in any other circumstances, or for reuse in other publications, or for translation or adaptation, permission must be secured and a fee may be charged. Email publish@oxfam.org.uk

For further information on the issues raised in this document email phd@oxfam.org.uk

Oxfam is a registered charity in England and Wales (no 202918) and Scotland (SC 039042). Oxfam GB is a member of Oxfam International.

www.oxfam.org.uk