

REVIEW OF THE RED CROSS WATER AND SANITATION PROGRAMME IN THE DEMOCRATIC PEOPLE'S REPUBLIC OF KOREA

International Federation of Red Cross and Red Crescent Societies

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ACRONYMS

4WD	4-wheel drive vehicle
CBDP	Community Based Disaster Preparedness
CBFA	Community Based First Aid
DP	Disaster Preparedness
DPRK	Democratic People's Republic of Korea
ECHO	European Commission Humanitarian Office
EcoSan	Environment friendly handling and disposal of human excreta
GoDPRK	Government of Democratic People's Republic of Korea
IEC	Information Exchange Communication
IFRC	International Federation of the Red Cross and Red Crescent Societies
KAP	Knowledge Attitude Practice
MoPH	Ministry of Public Health
MS	Microsoft
NGO	Non Governmental Organisation
NLRC	Netherlands Red Cross Society
NS	National Society
O&M	Operation and Maintenance
PHAST	Participatory Hygiene and Sanitation Transformation
RC	Red Cross/Red Crescent
Ri	Rural residential area
RT	Review Team
SARS	Severe Acute Respiratory Syndrome
SRC	Swedish Red Cross Society
ToR	Terms of Reference
ToT	Training of Trainers
UN	United Nations
UNICEF	United Nations Children's Fund
WatSan	Water and Sanitation
WBD	Water Borne Disease
WHO	World Health Organisation
WQM	Water Quality Monitor
WSS	Water Supply Systems
WWCS	Waste Water Collection System

EXECUTIVE SUMMARY OF THE REVIEW OF THE RED CROSS WATER AND SANITATION PROGRAMME IN THE DEMOCRATIC PEOPLE'S REPUBLIC OF KOREA (FEBRUARY 17 TO 28, 2004)

The International Federation of the Red Cross and Red Crescent Societies, in collaboration with the Red Cross of DPR-Korea, commissioned a review of the WatSan programme currently being implemented. The mission was conducted by Wolfgang Stöckl, IFRC and Team leader, and Wim Klaassen, QUEST-Consult Ltd. The review covered all WatSan programmes implemented since 1999. (Terms of Reference in Annex 1)

The purpose of the Review reads as follows:

- To review the progress and achievements to date of the DPRK/NS Federation water and sanitation programme, against the programme objectives and verifiable indicators;
- To document the strengths and weaknesses of the programme and to develop recommendations;
- To evaluate and assess the feasibility of introducing new components and/or initiatives linked to water and sanitation areas, into the current and future programmes;
- To provide technical and operational feedback where seen as necessary.

Methodology of the Review

The methodology comprised intensive first briefings at the offices of the NLRC HQ office in The Hague and the IFRC office. Other discussions took place in Beijing where the team met with Mr. Thanh Le, IFRC Regional Health Programme Officer for South East and East Asia, and Mr. Per Gunnar Jenssen, Head of the IFRC Delegation in DPR-Korea. There were additional discussions with Mr. Le and Mr. Arie Schuurmans, the NLRC Regional Programme Officer. In Pyongyang the Review team were introduced to staff at the IFRC Delegation office and debriefed by the DPRK/Red Cross WatSan team.

Objective of the projects and project locations visited

The general objective of the projects is to provide clean water and locally-appropriate sanitation facilities, plus health education on the prevention of water-borne diseases in Ri (rural) and Dong (semi-urban) communities in North Pyongyang, Jagang and South Pyongyang provinces by the end of 2004. The project is a part of a hundred-village WatSan programme planned to run for three years.

The Team visited projects, which took six days of the ten mission days; 21 water and sanitation projects were visited. Although it was the brief of the Team to evaluate the current WatSan Phase-2 project, visits were also made to the projects and communities benefiting from the projects shown in the table below.

Name project	Project output	Implementation period	Donor
Improved WatSan at Health Institutions	Improved WatSan in 147 health institutions , (36 county hospitals and 111 ri-clinics/hospitals), providing 1,692 institutions with 4,282 water filters, training of hospital/technical personnel in the O&M, training of WatSan water quality monitors	09-'99 to 07-'01	SRC
Pilot phase: Fast-track Community Water Systems	Pilot WatSan projects in 18 villages , including two pilot projects	09-'01 to 10-'02	Funds remaining from the 'Health Institutions'-project
WatSan review 2002			
DPRK WatSan Project 1 st Phase	20 villages as part of 100-villages goal	08-'01 to 09-'03	-15 villages NLRC/ECHO -5 SRCs
DPRK WatSan Project 2 nd phase	40 villages as part of 100-villages in North Pyongyang, Chagang and South Pyongyang provinces.	08-'02 15-09-'04 (planned)	-30 villages NLRC/ECHO -10 SRCs

	Latrines: 40 double units at family homes and institutions ¹	completion)	
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After returning from the field, meetings were held with international NGOs and other organisations, government institutions and UN agencies. At the close of the mission, a Debriefing Workshop was held for one and a half days (annex 2). This was with the DPRK WatSan Unit staff and had input from the IFRC-WatSan Unit Co-ordinator and IFRC Community Health Delegate. The purpose of the workshop was to discuss the findings of the Review Team, to enable all parties to ask questions and to provide additional analysis and information to both WatSan teams on issues such as monitoring and management.

Debriefing was done with the East Asia Partnership Meeting in Beijing, and through meetings with the representatives of donors (NLRC, SRC, ECHO) and the staff of DPRK-NS and of IFRC from different offices. Findings and preliminary conclusions were presented. (March 1, 2004)

MAIN CONCLUSIONS AND RECOMMENDATIONS

1 Concerning main evaluation criteria: Relevance, Efficiency, Effectiveness, Impact, Sustainability and Replicability

1.1 *Relevance*²

Conclusion 1: The water projects address adequately the needs of rural people and inhabitants of small provincial towns for improved WatSan. The rural people are organised in 'working groups' within the farming system. For outsiders there may be some misunderstanding about 'community' and village. A working group (usually a village) can be regarded as a smaller community whereas Ri (usually made of several working groups or villages) as a bigger community. Agreed and recognized selection criterias have been used to select target communities/villages. Some of the projects do not cover the entire population of the village, criteria used to distinguish between those parts of 'working groups' included and those who are not included in the project could not be evaluated by the team.

Recommendation 1: To describe criteria for inclusion into the projects more explicit and report on the service levels of those parts of 'working groups' which are not included in the projects.

Conclusion 2: Beneficiaries take part in the project implementation with strong and effective participation and input by providing manual labour and storage of the materials.

Recommendation 2: In order to improve the potential for O&M and sustainability it is recommended that more needs to be done to establish and train Water Committees in charge of Operation and Maintenance.

1.2 *Efficiency*³

✧ Concerning Per Capita cost efficiency

Conclusion 1: The cost efficiency of the second phase programme is within generally accepted financial unit-cost criteria for improvement of piped rural water supplies: 51,200 direct beneficiaries⁴ against a project expenditure of Euro 1,400,000 or Euro 27.34 per capita. This figure will have to be amended as new beneficiaries are added due to the expansion of current water supply systems being extended and may increase to 68,300 according to NS.

Recommendation 1: It is recommended that along with the need to provide a clearer picture of the 'working group's' population included in the programme and those who are not included, formulate

¹ Double units were in the initial plan but single household latrines and triple latrines for institutions were constructed. The numbers constructed of each type of latrines was not available.

² Relevance is defined as the choice of beneficiaries and the deployed strategy in relation to the identified needs.

³ The key question under 'efficiency' is whether the same or similar results have been achieved at lower costs.

⁴ Some reports quote a lower number of beneficiaries, e.g. the FPA quotes 38,390 beneficiaries. Other reports mention other numbers.

the criteria used to discern between them, there is a need to determine the total number of beneficiaries of the project. There is a figure for each community of the number of targeted beneficiaries.

✧ **Concerning organisational efficiency**

Conclusion 1: The projects are implemented with strong involvement of the provincial Red Cross branches, who have been involved in carrying out the projects. At the national level a separate WatSan Unit within the Red Cross Health department is responsible for the programme and is supported by the WatSan Unit of the IFRC office. The decentralised structure of the Red Cross organisation, which consists of branches with the support of many volunteers and sound relations with local government, is efficient and effective in reaching the target population and involving them in the project implementation and potentially in O&M.

Recommendation 1: Capacity development of the branches involved with WatSan project implementation needs to be further addressed. This includes the organisational capacity, and technical skills development of staff and volunteers.

Conclusion 2: The support provided by the IFRC WatSan Unit concentrates mainly on the implementation process while issues like support to planning and monitoring by the NS have not sufficiently been dealt with although both units said that these issues were discussed. This may be practically explained from the urge in the NS to achieve quantitative targets and the limited assess of the Federation WatSan Unit to management issues.

Recommendation 2a: The support of IFRC for the planning, management and monitoring capacity of the National Society should be strengthened. Monitoring of the Unit on the engineering standards of the project should be emphasised and operationalised by both units.

Recommendation 2b: Detailed annual, monthly and weekly work plan has been jointly worked out and used by both WatSan units. Further focus should be put on implementation of planning and monitoring especially on field observations, both process and delivery of information to management. It is also recommended that the health impact at completion of the project be monitored.

Recommendation 2c: A more detailed formulation of the support role and input delivery of the Federation WatSan unit would benefit the efficiency of the Technical assistance role of the Federation.

Recommendation 2d: Project planning, administration, contract management and financial management of the project needs to be reviewed as all projects were over-budgeted or underspent. More precise budgeting and detailed reporting procedures are recommended for future projects.

✧ **Concerning operational efficiency**

Conclusion 1: In the DPRK context, for expatriate staff travelling and project visits are strongly regulated and limit the possibilities of efficient and flexible project implementation and monitoring. NS staff and local people can freely travel and visit project sites.

Recommendation 1: To optimise communication between both WatSan Units in view of implementation of fieldwork and related logistics, to agree on formats for operational monitoring. Travelling and project visits for expatriate staff are regulated to some extent and sometimes restricted.

Conclusion 2: The efficiency of monitoring needs improvement. See previous conclusion and recommendation.

Recommendation 2: Monitoring procedures need to be developed using explicit criteria not only in view of delivery of activities or output but also describing the impact of the achievements and what the related management decisions are for both WatSan Units.

Conclusion 3: All local or international procurement of material input has been done in accordance with standards and specific tender procedures as provided by donors and the Red Cross.

Recommendation 3a: In view of efficiency and technical appropriateness is best to procure hardware within DPRK. Good examples of local procurement are the engine-pump units, although the

make is less sophisticated as what is available on international markets. ECHO guidelines and requirements for tendering should always be taken into account.

Recommendation 3b: It is also recommended that steps should be taken that supply of renewables, etc. filters, chemicals, etc. should reach the monitors in time as per their need. Other organisations in DPRK are increasingly switching over to Wagtech mobile kits instead of DelAgua. It is recommended that the IFRC follow suit which would make sourcing of reagents and training easier for the WQMs.

Conclusion 4: The project has employed 8 Water Quality Monitors, whom are well educated, trained and performing well. In all interviews held and information obtained from discussions in the field no single case water quality upon completion of the project was unfit for consumption.

Recommendation 4a: As the project does not want to create structures parallel to those that the government it is recommended to reduce the number of monitors to four (4). Given the professional levels of the monitors it would be advantageous to place them in other posts in the project, provided there is a need additional human resources.

Recommendation 4b: Water quality monitors should participate in technical workshops as well as health/hygiene promotion workshops to get a full understanding of the WatSan projects and situation in the communities. Step by step with improved monitoring skills for other project activities they should be involved for technical monitoring as well as hygiene education and behaviour change monitoring. Water quality monitoring will be finally a less important part of their job.

1.3 Effectiveness

Conclusion 1a: The project has been effective in terms of the relationship between activities, with results for each of the projects implemented. It is too early to assess fulfilment of the purpose.

Conclusion 1b: As the water in all projects visited has been of good quality, water is no longer a factor negatively affecting health in the communities served, although there are increasingly other factors, e.g. lack of food, poor environmental health, which may lead to poor health statistics.

Conclusion 1c: The objective of health improvement depends strongly on the strengthening of the health education component and is decisive for actual health improvement.

Recommendation 1a: Although considerable health education training in the communities and for technical staff is conducted, the duration of the training is short and there is no feed-back in terms of effectiveness of the health education training process and the activities in the villages.

Recommendation 1b: IFRC Health Delegates are involved with the health education programme but it is suggested that they intensify their input particularly in terms of providing more Health education to greater numbers of people and structure the health data collection prior to and after the intervention.

Conclusion 2a: The project has had considerable output, but quality standards leave something to be desired.

Conclusion 2b: Phase 2, the water component as well as the EcoSan component are not likely to be complete by September 15, 2004, which is the end of contract term with ECHO.

Recommendation 2a: Standards for design and detailed specifications for the construction need to be developed, implemented and monitored. Technical staff at all levels within the organisation needs to be trained in this regard and the technical component better monitored.

Recommendation 2b: It is recommended that a Korean engineer be employed with qualifications in technical quality control in the WatSan sector or to increase the capacity of the present six technicians and make sure they pay more attention to technical quality control (preferred by NS);

Recommendation 2c: All projects in Phase 2 as well as Phase 1 need to be checked for technical shortcomings and any technical deficiencies to be corrected.

1.4 Impact

Conclusion 1: It is a world-wide experience that the health impact of water and sanitation projects cannot be assessed within periods shorter than one year, given for instance seasonal influences. For this reason no definite statement can be made about the impact of the project. It is however most likely that water and sanitation development in the setting of the projects of the National Society will achieve positive impact for the target group as in all cases there is high quality water virtually without interruption.

Recommendation 1: In order to achieve the full health benefit other factors which would diminish the positive effects of WatSan within the communities, need to be identified and addressed, e.g. lack of appropriate health education, food deficiencies.

Conclusion 2a: Sustainability as opposed to impact can be seen positively in view of organisational and financial sustainability. Technical sustainability however must be regarded as a weak factor, given the generally low levels of technical work achieved. Refer to following section on sustainability.

Conclusion 2b: The water projects do not have adverse effects on the environment as water abstraction is generally low given the aquifer capacity in the project areas visited. The EcoSan latrines are a special design aimed at safeguarding the environment from pollution.

Conclusion 2c: Impact of a different kind comes from the longer-term benefits for the National Society, its organisational development and development of professional skills and knowledge. There is also a positive influence in the sense that the communities feel they are helped to develop as a reward for their input.

1.5 Sustainability

✧ Concerning Institutional sustainability

Conclusion 1: this is considered to be high as the project implementation in most cases was embedded in the local structures of the NS-Branch with staff and volunteers, the farms; last but not least is the observably high motivation of the communities.

Recommendation 1: In addition to the input of the farm/management in O&M, each project should be administered by the users themselves through a Community Water Committee, established and trained to ensure long-term Operation and Maintenance, if possible with technical back-stopping from the farm.

✧ Concerning Technical sustainability

Conclusion 1: This is a weak component of the project, which needs to be addressed urgently. Weak areas include; systems design; understanding specifications and procurement and construction activities.

Recommendation 1a: Considerable work is still to be done on most projects in Phase 2. In Phase 1 projects, all need to be checked for technical shortcomings.

Recommendation 1b: It is recommended that a Korean engineer with qualifications exceeding the level of technicians, be employed with qualifications in technical quality control in the WatSan sector.

Conclusion 2: Technology choice policy has been variable over the past few years, possibly because of the short-term nature of WatSan Delegate deployment and the limited experience in the NS WatSan Unit.

Recommendation 2a: A technology-choice policy paper should be written to cover the current state of the art and provide guidance for the future.

Recommendation 2b: Replacement of the Submersible pumps in the 2002 WatSan Pilot projects. A good example of the 'technical standards' discussion which needs a permanent solution are the poorly performing submersible pumps imported from China and installed in 14 of the 18 projects in the 2001/2002 Swedish RC funded Pilot project. In order to solve this problem it is recommended that all submersible pumps be replaced, where possible with centrifugal pumps. It may be needed in some locations to reduce the static head by lowering the pump base plate and the floor of the pump-house. This recommendation aims to avoid a situation whereby technically unsustainable equipment is handed over to the users.

❖ **Concerning Financial sustainability**

Conclusion 1: In all places visited, users contribute financially to the expense of pumping, which is included in the -subsidised- bill for consumption of electricity borne by the communities on the farms.

❖ **Concerning Environmental sustainability**

Conclusion 1: Pumping at the present rate of 2 to 5 hours per day is rather low and does not threaten seriously the water sources, mostly wells or springs. The design consumption of 150 litres per person per day is way above most international standards. Given the limited duration of daily pumping this does lead to critical extractions.

Recommendation 1: The team endorses the policy of Federation WatSan that metering needs to be introduced and in some places monitoring boreholes and piezometers should be installed to monitor trends in water levels. The monitoring of these water levels would indicate also if there is any groundwater-surface water interaction given that most of the sources are located in paddy fields.

1.6 Replicability¹

Conclusion 1: Taking the comments and recommendations in this report into consideration, the technology for the water component, the operations implemented and the results obtained, all have potential for replication. The choice and replicability of EcoSan latrines is still in its pilot phase. It seems that the long winters and short summers in most of the project areas, the cost and complexity of the latrines, the circumstance that BioGas can also be generated from improved traditional latrines against a lower cost -all this may lead to the conclusion that the EcoSan latrines are not optimally replicable in areas similar to those of the project.

Recommendation 1: At the completion of the Pilot project in Phase 2 the result should be analysed and conclusions drawn about future direction.

2 Operational capacity

The DPRK has been able to establish and operate a WatSan Unit from within the Health Department with support of the IFRC WatSan Unit. Staff in the Red Cross has increased over the past years and is well in line with the requirements. Finding WatSan Delegates has been difficult, especially during 2000 to 2002. See next section. In conclusion it may be stated that the Red Cross, with support of the IFRC, has developed and to some extent consolidated considerable operational capacity.

The output of the projects over the past years has been well in line with the project objectives, however, as the NS WatSan unit is relatively new, the planning, monitoring and management of the different phases of the project cycle has been a new experience. As a consequence, most of the projects started on time but ran into delays for various reasons. Some of the delays are non-operational, e.g. in Phase 2, they are related to late approval of funding (ECHO), limited capacity to pre-finance the project between approval and arrival of the funds (IFRC/NLRC), late arrival of delegates due to constraints caused by SARS. Also the slow recruiting process in IFRC has been a factor of delay.

The dependency on donor funding approval and procedures, however, is a common experience and can to some extent be integrated into the planning and management of projects. The main recommendation would be to strengthen the planning and management capacity of the Red Cross while IFRC WatSan Unit should provide more quality input into the planning process and support.

Another example of fast organisational development while planning a very short cycle is the employment of a relatively large number of Water Quality Monitors, who essentially form a parallel structure to those that the government has established and maintained. It is recommended that the number of Water Quality Monitors be reduced to four (4) over the next year.

In the report, a risk analysis has been provided and responses identified as to how to reduce the individual risk factors.

¹ Whether the project approach is generally appropriate in the context of culture, organisational capacity and environment and can be principally replicated by the local implementers

3 Capacity development of DPRK-Red Cross

The capacity development of the Red Cross follows from an agreement between both organisations and is operationalised through the IFRC office and WatSan Unit in Pyongyang. During 2000 to 2002 there have been one to two delegates available at the time. During the first six months of 2003 there were three Delegates, which is the number required to carry out the task of supporting the Red Cross. Constraints mentioned were the difficulty of obtaining visas for the Delegates without delay and also the recruitment of the right candidates. NS noted that delays only occurred during the time of SARS. According to the Red Cross, the government has granted visa approval for two permanent posts and one nine-month post. In further discussions on this matter it would be recommended to have this confirmed by the Red Cross and by the government. The preferred number of delegates is three full time delegates, the situation like it is now (2 full time delegates, one delegate for 9 months) is the absolute minimum and hard to run the programme at a reasonable quality level.

The number of staff in the Red Cross has increased in line with recommendations in the 2002 Review (but still not reached the number of 3 full time delegates); staff is competent and highly motivated to develop the organisation further for the benefit of the target groups.

The efficiency of the support role of IFRC could be further improved by discussions and in agreement with the two WatSan Units on the key issues for capacity development, with clear identification and agreement of the mutual roles played. Improving the effectiveness of the IFRC WatSan team would possibly increase the effectiveness of new staff employment. In the Debriefing Workshop an inventory was made on areas in the DPRK Red Cross where capacity development is most relevant or should it be most needed.

4 Integration of Health with WatSan

Co-ordination between Health and WatSan has to be achieved within both structures. There is commitment for co-ordination on all levels - for practical implementation in daily work, information sharing, for understanding the partners' programmes and problems. At present however some co-ordination is institutionalised, but much still depends on personal relationships. Meetings are held regularly within both organisations but there are only few joint meetings.

An important area of joint operation of the Health staff and WatSan staff is the need for health information, used for the selection of the target villages for the WatSan programme. There is presently not optimal understanding or sharing between both organisations over which information is essential and how to obtain it. It is recommended that the NS and IFRC health staffs, responsible for project planning, should share their experience in a joint workshop, to look at the whole issue of: 'How the Health Education component should be implemented'. A workshop to take inventory of the existing structure and tools, e.g. the hygiene promotion booklet, to brainstorm for improvement and to institutionalise the integration of health and WatSan should be held to round up the efforts which have been put into this process.

It is further recommended that the Health Delegates would support the Red Cross in the collection and usage of Baseline data, Proxy data, KAP baseline information - health and changing behaviour, how to link WatSan to CBFA activities, Data exchange among the partners and village level Health Education approaches.

5 Gender

In terms of gender awareness women and children are the first ones among the beneficiaries to be addressed by the programme and benefit most, as they are the foremost part of the society handling with water and sanitation on a day to day business.

Both WatSan units have only men employed while the WatSan assistant in the Federation is female. Although several female staff are employed in the health departments, it is recommended that both units employ qualified female workers.

6 Follow-up to the Recommendations of the 2002 review

During that review a number of important recommendations were formulated. Below, the follow-up and degree of implementation is summarised:

- ✧ Project design and planning: some progress;
- ✧ Staffing and funding: implemented;
- ✧ Co-ordination: limited implementation;
- ✧ Training: Number of stakeholders trained has increased, no assessment of quality;
- ✧ Management and general: some progress.

7 New components and innovations in current and future programmes

- a) The introduction of EcoSan as a pilot project in Phase 2 has been a useful initiative, especially as it can be linked to the ability at family level to generate BioGas. The opinions gathered in the field however, suggest that the users do not favour the EcoSan latrines, especially as the long winters, short summers and the cost of construction affect its functioning, which is higher than that of the improved local latrine. BioGas generation has been certainly of interest, but is not exclusively linked to the EcoSan latrine alone. It is also generated by the more cost-effective traditional latrine. A final decision about the way forward should be taken only after a systematic evaluation.
- b) The decision to provide transformers to each of the pumping stations to correct the electrical current at the level of the end-user was correctly taken. It is recommended that the same decision be taken in all projects in future.

8 Lessons learned

- 1) The package of WatSan involves different disciplines. If experts are in place in both WatSan Units, to represent some of the disciplines but not all, then the discipline with limited advocacy will suffer. In this project, Health Education has had considerable advocacy, but could have more and higher efficiency, and Technical Standards have been insufficient. Experts in these two disciplines should be found for both WatSan Units.
- 2) It has not always been easy to bridge and communicate between the IFRC international unit in the RC and the DPRK National Society although regular meetings were kept and both units felt that practically spoken all was done to optimise working relations. Building stronger professional working relationships is needed. More than before specific activities should be developed, e.g. Case Study presentations, assisting Korean colleagues with publications, carry out joint planning and monitoring which confirm that both Units have a common cause. When recruiting international experts, the ability to build good relations with Koreans should be seen as an essential skill. Only if the third Delegate cannot fill a permanent post, perhaps it may be decided to have a regionally posted Delegate who rotates through Pyongyang and also serves other country programmes.
- 3) With Health Education, the preliminaries are often confused with the actual job. Training staff and making educational materials help to make the job possible. But Health Education only really starts with attempts to change behaviour.
- 4) Some of the local authorities may see the value of putting effort into water supplies but not into sanitation -until the economic element of BioGas production comes into play. Although it is not the responsibility of RC to inform government of the wider benefits of sanitation, an understanding of these issues would be in the interest and for the benefit of the programme.
- 5) WatSan engineers may change decisions about technical and technology choices without well thought through reasoning. A policy framework should be put into place that ensures that technical changes are justified in writing.

1 PURPOSE AND METHODOLOGY OF THE REVIEW

The Review was implemented with following objectives in mind:

- To review the progress and achievements to date of the DPRK/NS Federation water and sanitation programme, against the programme objectives and verifiable indicators;
- To document the strengths and weaknesses of the programme and to develop recommendations concerning the design of the future implementation of the water and sanitation project;
- To evaluate and assess the feasibility of introducing new components and/or initiatives linked to water and sanitation areas, into the current and future programmes;
- To provide technical and operational feedback where seen as necessary.

1.1 METHODOLOGY OF THE REVIEW

There was an intensive first briefing of the NLRC-contracted team member, Wim Klaassen, responsible for WatSan, organisational components and report drafting at the NLRC office in The Hague. Various issues were discussed intensively and documents studied. The IFRC-seconded evaluator, Wolfgang Stöckl, who is the Team Leader and responsible for the Health Education aspects of the mission, was briefed at his base, the IFRC office. A second round of discussions took place in Beijing where the team met with Mr. Thanh Le, IFRC Regional Health Programme Officer for South East and East Asia, and Mr. Per Gunnar Jenssen, Head of the IFRC Delegation in DPR-Korea. There were additional discussions in the IFRC office with Mr. Le and Mr. Arie Schuurmans, the NLRC Regional Programme Officer.

Upon arrival in Pyongyang, the Review team was introduced to staff at the IFRC Delegation office. A meeting with the DPRK/Red Cross WatSan team followed, with a detailed briefing. This included a very well presented overview of the programme by PowerPoint and detailed discussions during and after the presentation.

The Review team received the itinerary for the full duration of the fieldwork period during which the senior staff of the Unit, led by Mr. Ri Ho Rim, accompanied the team, as did the co-ordinator of the IFRC WatSan Unit. The project visits, which took six days out of the ten mission days, were very well organised. The Review Team visited 21 projects realised over the past years by DPRK-NS in a programme for Improved WatSan at Health Institutions. They visited communities benefiting from Fast-track Community Water Systems, from WatSan Project 1st Phase activities and from WatSan Project 2nd phase activities currently under implementation. The large number of projects seen included examples that clearly had very strong O&M while others showed considerably less O&M capacity. The Team met with staff and volunteers from the NS Branches, and with Water Quality Monitors; issues were discussed; local people invited the team to visit their home; farm managers were eager to provide information to the team members. The reception offered at all places in the programme was cordial. The Review team should not miss the chance here to express its appreciation of the excellent working environment and the wonderful reception in the field, with meals to which it was invited, given that food in the DPRK is so limited.

After returning from the field, a round of meetings was held with international NGOs and other organisations, government institutions and UN agencies. At the close of the mission a workshop was held for one and a half days. This was with the DPRK WatSan Unit staff and had input from the IFRC-WatSan Unit Co-ordinator and IFRC Community Health Delegate. The purpose of the workshop was to discuss the findings of the Review Team, to enable all

parties to ask questions and to provide additional analysis and information to both WatSan teams on issues such as monitoring and management.

Debriefing was done with the East Asia Partnership Meeting in Beijing, and through meetings with the representatives of donors and the staff of DPRK-NS and of IFRC from different offices. Findings and preliminary conclusions were presented (March 1, 2004).

2 REPORT OF THE REVIEW TEAM

2.1 HISTORY IN BRIEF OF THE DPRK NS WATSAN PROGRAMME¹

Following the floods and tidal inundations of 1995 and 1997, many water sources were destroyed and/or contaminated with saltwater, especially along the west coast in the salt-affected districts. Even more significantly, a chronic lack of maintenance for ageing established piped systems has caused them to degenerate to a point at which systems no longer function; they are often beyond any repair and need total rehabilitation. Hospital statistics in affected regions, although they should be treated with caution, indicate an increase in patients with diseases linked to poor water quality. In view of this, in 1999 a water and sanitation project supported by the IFRC and financed by the Swedish Red Cross was initiated with the objective of rehabilitating or improving WatSan systems in 147 health institutions. The project, which was implemented over a three-year period, included:

- Rehabilitating and improving the WatSan systems in one provincial hospital, 36 county hospitals and 111 ri-clinics and hospitals (ri meaning rural);
- Providing 1,692 institutions with a total of 4,282 water filters;
- Training hospital and technical personnel in the operation and maintenance of the WatSan systems; and
- Training DPRK Red Cross water quality monitors in the testing of bacteriological water quality.

This programme was concluded in July 2001, but the domestic water and sanitation situation in most of the villages and communes where the Red Cross has been working was still precarious.

In May 2001 a programme proposal was written for a programme to run three years, with the goal of improving the WatSan situation in 100 settlements. The targeted beneficiaries of the project are vulnerable communities identified in the areas where the IFRC has been supporting the DPRK NS, i.e. North Pyongan, Chagang and South Pyongan provinces.

The new programme was to be established in three phases:

- ◇ 20 villages in 2002: 43070 in rural areas villages (19), 150.000 in Sinuiju city project
- ◇ 40 villages in 2003: initial assessment 38,390 beneficiaries, after recount (2003): 51,200 direct beneficiaries
- ◇ 40 villages in third phase: has not been started yet

In the meantime, in 2001, a pilot project for a small number of villages was designed so that experience could be gained in planning, design and implementation of such a programme. This pilot project was finally extended to 18 villages, and implemented in 2001 and 2002. The Swedish Red Cross financed the programme, providing water supply systems.

In 2002, after the pilot, the first step of the programme itself started with 20 villages. Five villages were financed by the Swedish Red Cross and 15 by the Netherlands Red Cross and ECHO. The purpose of this new programme was to improve the well being of rural community members in Ri (rural) and Dong (urban or peri-urban) settlements. The aim is to

- Upgrade and assure water supplies for human consumption -that is, water supply systems and waste water management systems;
- Promote health education at the community level as well as technical support for sanitation upgrading and
- Strengthen the capacity of the DPRK Red Cross in addressing these issues.

¹ The information from section 2.1 is to a large extent obtained from the 2002 Review Report.

The programme has a preventive rather than a curative approach. The target group is the rural population living in Ri-villages or Dong-settlements adjacent to towns, with varying numbers of populations. Each Ri or Dong is evaluated individually with a view to establishing the best means of solving the settlement's problems of drinking water availability and wastewater management. Since each situation is specific, the applied solutions vary from the upgrading of existing water sources to the rehabilitation of water and waste water systems that have deteriorated or the identification of alternative water sources and implementation of new water and waste water systems.

The criteria for project selection were to include:

- Vulnerable rural communities as identified by the National Red Cross;
- On-going CBFA training and DP training in the community;
- Previous inclusion in the curative programme aimed at improving the water situation in health institutions;
- Hospital records for in-patients or health-related data;
- Water quality results;
- Water quantity availability;
- Size and technical feasibility level of project design;
- Cost per beneficiary;
- Frequency of outbreaks of waterborne diseases.

A sanitation component as well as a hygiene education campaign was added to the programme.

The first phase of the programme, comprising 20 villages, was completed in July 2003; water supply systems were completed by 2002 and components of wastewater and latrines by mid-2003.

In the second phase, the Swedish RC continued their support to the water and sanitation programme covering 25% of the project. This assistance targeted ten vulnerable communities in the North Pyongyang and South Pyongyang provinces, identified by DPRK NS and the Federation. Funding for Swedish RC assistance is coming partly from the Swedish RC's own resources, in addition amounts have been obtained from the Swedish Government. This part should be completed by March 2004.

Netherlands RC/ECHO supported the 2nd phase of the Federation/DPRK NS WatSan programme, addressing 30 villages. Works are still under construction and should be completed by September 2004. Reference is made to the timeline in the next section.

Parallel to the technical assistance is an important component -health education on water-related diseases and health care. And during the implementation of the water systems, there are workshops covering the training of local technicians to operate and maintain the installations.

A WatSan review took place in November/December 2002. In section 6 of this report the response of DPRK-NS and IFRC the programme to the Review recommendations is assessed.

3 THE DPRK-NS WATSAN PROJECT: OBJECTIVES AND TIMELINE

Objective of the projects:

To provide clean water and locally-appropriate sanitation facilities and health education on the prevention of water-borne diseases in Ri and Dong communities in North Pyongag, Jagang and South Pyongag provinces by the end of 2004. The project is a part of a hundred-village WatSan programme planned to run for three years.

3.1 TIMELINE OF THE WATSAN PROGRAMME SINCE 2002-REVIEW

In the table below the chronology and timeline of the implementation of the WatSan project is given under some headings followed by comments about the cause of progress and delay.

Name project	Project output	Period	Activity	Donor
Improved WatSan at Health Institutions	Improved WatSan in 147 health institutions, (36 county hospitals and 111 ri-clinics/hospitals), providing 1,692 institutions with 4,282 water filters, training of hospital/technical personnel in the O&M, training of WatSan water quality monitors	09-'99 to 07-'01		SRC
Pilot phase: Fast-track Community Water Systems	Pilot 'fast track' projects in 18 villages	09-'01 to 10 -'02	Implementation	Funds remaining from the 'Health Institutions'-project
WatSan review 2002				
DPRK WatSan Project 1 st Phase	20 villages as part of 100-villages goal	08-'01 09 to 10-'01 04 to 05-'02 03 to 06-'03 03 to 09-'03	-Collection of data for selection -Field assessment -Procurement/ distribution of materials -Construction of Waste water collection system: -Construction of EcoSan latrines:	-15 villages NLRC/ECHO -5 SRCs
DPRK WatSan Project 2 nd phase	40 villages as part of 100-villages goal	08 to 09-'02 10-'02 to 01-'03 Spring-2003 05 to 07-'03 05 to 12-'03 02 to 04-'04 03 to 04-'04 (approx.) September 2003 11-'03 to 05-'04 12-'03 to 05-'04 03-'04 to 09-'04 06-'04 to 12-'04 (approx.)	-Collection of data for selection -Field assessment: Swedish part: -Funding decision -Procurement/distribution of material -Construction of Water Supply System -Construction of Waste Water Collection System: -Construction of EcoSan latrines NLRC/ECHO part: -Funding decision -Procurement/distribution of material -Construction Supply system -Construction of Waste Water Supply System -Construction of EcoSan latrines	-30 villages NLRC/ECHO -10 SRCs

3.1.1 SOME COMMENTS ON PROGRESS AND DELAY

Improved WatSan at Health Institutions project: this was initially planned with an implementation time of 18 months which was then extended to approximately 24 months. The reason was that it was the first time that NS implemented a relatively large programme in a big geographical area. Capacities and administration needed to be established and made operational. The project was to some extent overbudgeted; not all funds were spent and the surplus went to the Pilot Phase 'Fast-Track' project. See next.

Pilot phase: Fast-track Community Water Systems: This project was essentially created by the finances that were left over from the Institutions project. As the project was the first of its kind in dealing with community water supplies, DPRK-NS was faced with more complex tasks, in communication, assessment and subsequent procurement, while its experience in planning projects was still limited. The pace of implementation was consequently slower than that initially planned.

1st Phase WatSan Project¹: The preparatory activities of this project started well on time (August 2001) but it was hard to carry out the assessment work as at the same time the NS was implementing the 'Fast-track' project. The procurement started late, (second quarter of 2002) as experience with tendering and the formulation of specifications was limited. The project was completed only by mid 2003, WSS by December 2002; WWCS by June 2003; Ecosan latrine by October 2003 due to late delivery of stool, though the plan was for implementation and completion in 2002. This project phase was also overbudgeted; unspent funds made available by NLRC/ECHO were returned to Brussels.

2nd phase WatSan Project: This was meant to be implemented in 2003 and preparations started on time in August 2002. However, there was a domino-effect from delays in previous projects so that the technical work and training for this project started late: the NLRC/ECHO-funded project component for 30 villages only got ECHO approval in October 2003 due to procedural reasons and a wish from ECHO to take its funding decision at the same time as considering other funding applications from DPRK, all lodged in the second half of the year. A request from the NS to IFRC to pre-finance ECHO's funding did not work out. The funding decision of the SRC came in the spring of 2003 and the projects funded are expected to be completed in April 2004.

By April 2004, Euro 469,492.51 has been spent from the NLRC/ECHO grant amounting to Euro 1,400,000. By then engines and pumps were not yet purchased. Using indicative prices of hardware also in this project considerable overbudgeting – or under spending for that matter- becomes apparent. It points also at a delay in implementation and it can not be expected that the technical component will be completed by September 15, 2004, which is the closing date of the contract with ECHO. NS noted in its comments that it did expect to complete installations of technical components by June 2004.

A number of factors have contributed to the delays and the possibility to reduce their impact on the projects is further considered in section 3.2.3.

3.2 FIELD FINDINGS

This Review focuses specifically on these two projects currently under implementation: WatSan projects funded by the NLRC/ECHO (30 communities) and by the Swedish Red Cross (10 communities). During the field trip, however, projects were visited which had benefited by earlier stages of the WatSan programme (see itinerary in annex 3). Comments about other projects will be made only if deemed necessary to clarify aspects of the projects in focus. To obtain continuity between the subsequent Review reports, the headings of this section are similar as the headings in the 'findings section' of the 2002 Review report. The sections beyond section 4 are written following the Review criteria of the logical framework.

¹ The proposal was submitted to ECHO in November 2001. The MoU between Federation and National Society was signed on 9th of March 2002 and the contract with ECHO was signed on the 9th of April. The contract with the NLRC was signed on May 18, only after which were the ECHO funds made available.

3.2.1 PROJECT DESIGN

Water supply component design: although there should be some flexibility in the way the infrastructure is constructed, the principal design of the infrastructure should meet adequate international standards to ensure long-term operation and maintenance. The water moving and storing part of the infrastructure is constructed in a variety of ways and does not seem to adhere to an agreed standardised technical design. This includes the mechanical as well as the electrical components. It has been observed that the lack of standardisation leads to systems put together in different ways, while sometimes parts are not mounted, e.g. non-return valves. The lack of design and agreed standards leads also to low levels of engineering, which must be feared to lead to reduced technical sustainability. It is recommended that both WatSan Units discuss and agree on a standard design and specifications of all elements in the water infrastructure. The technical field staff will thereafter be trained to install the equipment as agreed as per the design. If variations are needed, these should be discussed and agreed upon by all involved. As a general rule, a project should only be handed over to the users if the project is in line with the design and when technically sound and sustainable. In essence this may take years to establish and therefore requires comprehensive follow up monitoring.

EcoSan latrine design: these are standardised and are well constructed. The appreciation of the latrines by the users is however doubtful and only at the completion of Phase 2, which is likely to be delayed, a decision may be taken whether to continue with the construction of EcoSans in Phase 3.

3.2.2 PROJECT OUTCOMES AND IMPACT¹

The WatSan project component (10 villages) funded by the Swedish Red Cross started in spring 2003 and is completed and operational, according to National Society. Handing over of the projects to the users is pending resulting from the concerns about the technical quality. The comments concerning the weaknesses in technical quality of the projects is discussed in section 3.2.6. and applies to all projects visited.

The WatSan project funded by the NLRC/ECHO (30 villages) was meant to start in September 2003 but began actually later when the ECHO decision was taken in October and is still under construction. The progress is reported on below, following the reporting format used in the reports to ECHO in order to make easier a comparison with previous reports.

Objectives level Progress

An overview is given below showing end-of-term indicators and the progress as per the date of review (29-02-2004).

End of term indicator	Progress as per Review date (29-2-2004)	Remarks
1. Water supply systems (in 30 ri's) installed by end of 2004	1. All materials procured and received, except engine pump sets (to be tendered) 2. Approx. 70% of pipes laid 3. 50% of all construction work on intakes and storage reservoirs complete	Re 1: Preparation for tendering to begin by early March. See note below this table Re 2: All pipe laying, including reticulation network and house connection complete by mid April (information from NS and Federation not unifocal) Re 3: All construction work expected to be complete by mid-April (information from NS and Federation not unifocal)
2. Sanitation systems (in 15 ri's) installed by end of 2004	1. All construction materials procured and approx. 70% delivered at project stores	Re 1: All construction materials be delivered at side by March 15 (information from NS and

¹ The information in this section of the report does generalise from the actual field situation as seen by the Review Team. It is not certain that the findings may be generalised to all of the Phase 1 and Phase 2 projects.

	2. EcoSan stools ordered mid February from China	Federation not unifocal) Re 2: EcoSan stools expected to arrive late April Completion of EcoSan component by late 2004
3. 80% of above projects meet Sphere Standards at end of project	All projects meet Sphere Standards for water supply and excreta disposal	Sphere standards apply to emergency relief programmes. The DPRK Red Cross program is more characterised as a rehabilitation project
4. Permanent and qualified water and sanitation technicians in DPRK NS water and sanitation unit	1. At WatSan Unit in Pyongyang 6 WatSan technicians employed 2. At field level 8 water quality monitors have been employed and operational	Re. 2: Alternative tasks for some of these staff are suggested. See section 3.2.8
5. Increased number of unannounced visits by end of 2004	NS-local staff visits projects between 6-8 times before completion. IFRC WatSan staff pays approx. 2 visits to each projects, although NS thought that a greater number (5) was achieved.	Random selection of projects for monitoring visits is possible. Random visits are not possible in DPRK as prior information and approvals for visits are required
6. Expansion of sanitation activities to all 30 ri's	Not accomplished	Pilot project of EcoSan latrine with BioGas Generator has been implemented. Pending pilot information, extension is being discussed.

Purpose level progress

Given the early stage (of implementation) of the project, an assessment of the Purpose related indicators is not yet realistic.

Results level progress

Result 1: Water and sanitation systems installed/rehabilitated (in 30 ri's) installed by end of 2004

Result indicators at end of term	Result as per February 2004	Remarks
1. Assessment Guide includes: preferred participants, duration, materials required, consultation list, interview techniques, ocular inspections, water quality testing guidelines, identification of WatSan systems caretakers	Accomplished	
2. 30 community assessment reports completed which include: Pop size, water source/& issues, how people use water & dispose of waste, water quality, water quantity, observations by household doctors on diseases potentially related to the water source, source protection, source availability), current WatSan facilities and their status, recommended interventions by community and assessment team, identification of Rural Buildings Control Station, training of WSS (water supply systems) caretakers, materials required, estimate cost.	NS has files available for individual projects visited in place and accessible. Information mainly from water quality analysis	1. 2. Monitoring reports, reports of field visits and other documents, e.g. related to logistics are kept in a separate file and it is suggested to merge into one file. 3. Additional information as per result and process indicator yet to be entered;
3. At least five visits to each of the 30 sites between design and handover of system to community	Accomplished	IFRC visits are generally said by IFRC to be fewer than desired and project visits of NS better to be co-ordinated with IFRC WatSan Unit. NS noted progress compared to the past years.

Result 2 - Existing hygiene promotion activities expanded to/ further developed in 30 ri's and dong communities

Result1 indicators at end of term	Result as per February 2004	Remarks
30 assessment reports completed, which contain more detailed information on water use, sanitation and incidence of water, related diseases in each	Accomplished	

community		
Data aggregated across 30 communities and analysed and used to inform project plans	Accomplished	
By autumn 2003 hygiene promotion training curriculum and materials finalised	Korean called "water and human health" with illustrations, pending translation English language	<ul style="list-style-type: none"> - Further improvement of Hygiene training materials needed - Increasingly communications, sharing of information and IFRC facilitation of NS training accomplished - Integration and co-ordination of IFRC Health staff and NS Health staff to be strengthened
At least one community health volunteer per 500 inhabitants trained to support the household doctors from each community (trained for duration of 3 days)	Not accomplished, with exception of few villages where volunteers have been trained;	<ul style="list-style-type: none"> - The numbers of health volunteers trained needs to be increased - Effectiveness of trained should be evaluated to increase quality of the training software and approach
Eight water quality monitors available by March 2004.	accomplished	- Tasks of Water Quality Monitors need to be reviewed (section 3.2.8.)
All water quality monitors able to evaluate water sources based on the extracted data	accomplished	- Water Quality Monitors' skills and knowledge are well up to standard
100 % of new IEC materials developed in co-ordination with MoPH, UNICEF, WHO and other relevant agencies	<ul style="list-style-type: none"> - Contacts with staff of MoPH, UNICEF, WHO and others established and contacts kept regularly. - Manual for Hygiene Promotion finalised but needs translation into English; - Additional WatSan IEC materials have been designed in consultation with the IFRC and Ministry of Public Health. 	
100% of new IEC materials tested prior to their finalisation	All materials used in health promotion is based on existing and already tested and used materials. All materials to be approved before printing by MoPH in order to guarantee cultural, social and technical appropriateness. Consultations with UNICEF on these matters have taken place as well.	

Result 3 - Institutional capacity of DPRK NS and Ministry of City Management to design, implement, monitor and evaluate water and sanitation activities strengthened

Result 3 indicators at end of term	Result 3 as per February 2004	Remarks
Fourteen DPRK NS staff and at least 15 county City Management staff have since earlier programmes increased their capacity to plan, monitor and evaluate water and sanitation and health promotion programmes.	Not accomplished	- No formal training of MoCM staff yet made

Result 4 - Effectiveness of implementation, monitoring and evaluation of programme objectives, outputs, inputs and processes within the unique DPRK context, is maximised

Result 4 indicators at end of term	Result as per February 2004	Remarks
Mission instructions for Federation water sanitation and health delegates are linked to expected outputs and outcomes of program	Not accomplished	<ul style="list-style-type: none"> - Increased planning and consent regarding support role of IFRC needed; - Process of transfer of skills/knowledge of monitoring and management to NS urgently needed;
DPRK NS and Federation use Logframe as monitoring and evaluation tool.	Not accomplished	- Some monitoring is carried out by IFRC, but mainly on output criteria;
Logframe is elaborated after review workshop in final quarter of 2003.	Not accomplished; not in ToR of current Review	-

	Team	
Objectives, activities and verifiable indicators outlined in log frame used as a base for reporting and evaluation	Sparsely	- Skills and knowledge regarding usage of log frame information and operations needs to be developed in both WatSan Units;
Findings and recommendations and lessons learnt documented in November 2002 WatSan evaluation incorporated into new project plans.	Lessons learned and Recommendation implemented to some extent	Re. Section 6
Findings and recommendations and lessons learnt documented in November 2002 WatSan evaluation incorporated into new project plans	Lessons learned and Recommendation implemented to some extent	-

3.2.3 DELAY FACTORS

The DPRK NS WatSan projects have experienced delay. In this section of the report, some of the major factors leading to delays are considered. The topic was also dealt with during the Review Workshop following to the fieldwork and an inventory was made of actual and potential delays for the programme. The delay factors are grouped under some headings and the following were mentioned:

1. Funding-related	How to reduce risk
Late funding decisions by donors	Early application, high quality proposals Discuss with ECHO whether they can consider NS funding requests separately from other applicants in DPRK
Limited pre-financing	IFRC to inform NS in good time whether pre-financing is possible, and Federation to clarify on its policies
Delay of Federation delegates	Avoid late visa application and inform Gov. of DPRK about necessity of Delegate deployment

2. Procurement and logistics	How to reduce risk
Local transportation and distribution	Plan logistic cycle in detail: needs assessment-tender-procurement-road transport capacity- storage capacity and distribution: emphasis on communication in all phases
Procurement/Logistics/Administration	Detailed knowledge of specifications and procedures; Improved communication on progress and delay between Federation logistics dept. and NS; See also above item
Border formalities	Assure that papers are in order; Provide details and establish sound relations with border officials;
Lack of knowledge for materials tendering	Develop expertise in both WatSan units to extend clearly formulated tenders with adequate technical specifications; Establish communication with private sector about the specifications needed;
Implementation according to seasons	Develop project plan jointly with local leaders and beneficiaries; Discuss feasibility to have some of the works continue during planting and harvest periods by specifically designated working groups;

3. Technical aspects	How to reduce risk
Lack of technical knowledge	<ul style="list-style-type: none"> - To standardise designs and specifications of materials needed; - To reduce number of technical brands for each item; - To formulate a working paper on technology choice and to avoid deviations; - To train technical staff only in skills and knowledge needed; then monitor application of new skills and knowledge; - To set technical standards and ensure all involved know them; - To ensure adequate monitoring of technical works; - Unless projects have been constructed in accordance to design, no handing over to users; - More formal training

4. Staffing and IFRC support	How to reduce risk
Irregular availability of WatSan Delegates	Reference is made to the tables below. Long-term employment planning by both IFRC and NS is required. Recruiting decisions should be made on a joint basis and not only influenced by one party.

Despite the above, it appears that applications for visas have generally taken longer than anticipated. And in addition, the recruitment process for the Federation has sometimes taken a long time. If the Delegates cannot fill permanent posts, perhaps it would be better to have a regionally posted Delegate who rotates through Pyongyang and also serves other country programmes.

3.2.4 OPERATIONAL CAPACITY DPRK RED CROSS WATSAN UNIT

Human resources

The operational capacity of the WatSan Unit in the NS has developed considerably since the 2002 Review. The number of staff increased as recommended in the 2002 Review. The team as well as the leadership of the National Society is highly motivated and has detailed knowledge of programme issues. The following staff changes¹ has occurred between the two Review missions:

Staff	2002 Review	2004 Review
Head of WatSan	1	1
WatSan Officer	1	2
WatSan Technician	1	6, of which 3 Field Technicians
Water Quality Monitors	4	8

Although staff has generally a sound education in WatSan-related areas, further training is needed. This requires training needs assessment and a staff training plan. From both WatSan Units, agreement needs to be arrived at which areas training and support by the IFRC is needed. Essentially the two main area are the technical and the managerial domains. It is recommended that the current level of involvement in project planning, e.g. the December 2003 WatSan planning, should be the first step towards greater involvement in Project planning and Proposal writing, Management and Monitoring. (re. Section 3.2.7)

Besides the human resources is also the strengths of the decentralised structure a positive contribution for the NS to reach out to the communities; Red Cross Volunteers in different ways are involved with project implementation and relate closely to the users and their communities. It was noted by the Team that communication between the office in Pyongyang and Branches upcountry is frequent although not always easy as not all local offices have telephone connections. Several training have been extended to staff and volunteers:

- ♦ Workshop (3 days) for WatSan Officers at Provincial/County Branch level, Co-op. Farm Managers, Village Chiefs, from 40 communities, totalling 257 participants;
- ♦ Workshop (2 days) on Water-Borne Diseases for NS Volunteers, from 40 villages, totalling to 340 participants. Reports received from these trained indicate that they trained 13, 570 community members concerning water-borne diseases and sanitation issues;
- ♦ WatSan training, as part of the CBFA training (3 days) was held 328 times to train 5,900 trainers and volunteers.

This is quite an effort and relevant, but it is noted that in these very short training sessions, information can be given but skills are difficult to be practised. If monitoring does not follow training to see whether the new skills and knowledge are being applied, the usefulness of the training may be limited. This is an area where the NS supported by IFRC delegates can strengthen its work. It should continue with training of its field staff and volunteers, but link the training clearly to the tasks in the field, ensuring that this contributes to improving the levels of performance and quality of the output.

¹ Information from DPRK-NS

In the workshop at the end of the Review an inventory was made of issues where capacity development was needed. This is summarised in the table below:

Organisation	Activity to be Strengthened
DPRK-NS	Assessment and selection of target communities
	Appropriateness design and technology choice
	Distribution of materials
	Construction/engineering works
	Water quality
	Involvement of the RC-Branches
	Progress monitoring
	Pressure testing
	Operation & Maintenance
	Engineering aspects
IFRC	Logistics
	Quality of materials
	Field assessment
	Monitoring O&M
	Training of staff and users
	Handing-over
	Materials distribution monitoring
	Construction/engineering monitoring

It was discovered that in this first inventory the list only had technical issues and none of the participants in the workshop considered the non-technical activities, such as Management and Organisational Capacity Development something that should be addressed until the point was raised and it was agreed that the software should not be given lesser attention than the hardware components.

3.2.5 GENDER

In terms of gender awareness women and children are the first ones among the beneficiaries to be addressed by the programme and benefit most, as they are the foremost part of the society handling with water and sanitation on a day to day business.

Both WatSan units have only men employed while the WatSan assistant in the Federation is female. The Health programme does have mainly female staff employed. It is recommended that both units should employ qualified female workers. If it is agreed that more and better health education should reach mothers in the community, the presence of women at all levels will become more important. In the project planning a gender perspective should be included.

3.2.6 ENGINEERING LEVELS AND THE TECHNICAL SUSTAINABILITY OF PROJECTS¹

The general standard of technical works were not up to standard and installations show leakage soon after installation. In some cases not all components were installed or working, e.g. non-return valves, pressure gauges and water meters. The technical skills and knowledge of the NS Technicians needs urgent improvement; several of the local practices of pipe fitting and welding are major sources of future faults and should be abandoned. The engine/pump set, electrical connections, switchboard, wiring to the grid cables outside the pump house as well as the transformer should be fully standardised. It has been a sound decision to include the transformers in the standard outfit of the pumping stations. It is recommended that, if possible, all capital investment be procured within DPRK as this meets with local preferences of the users and the technicians and is locally repairable. In addition it avoids delay due to international tendering (international tendering is required by ECHO guidelines) and it is meaningful for local economy activity. Some of the internationally procured equipment is inappropriate, for instance the submersible pumps imported from

¹ Reference is made to E.O.M. Technical report, Gulmar Hedenstedt, dd. 29-01-2004

China which cannot be repaired and require a brand of oil that is not available in the DPRK. It is recommended that these will be replaced with locally procured centrifugal pumps.

Technology choice has been inconsistent over the past years. This may have been influenced by the short-term nature of Delegate deployment and changes of Delegate Technicians. Examples are the initial prioritisation of Gravity water systems over pumped systems, instalment of submersible pumps at sources where a centrifugal pump would perform well, to install imported submersible pumps rather than continuing to make gravity supplies a priority or the preference for borehole water sources over shallow wells and springs or the procurement of equipment such as a 4WD-mounted well capacity testing equipment, which is not used and now parked in front of the office, -such decisions were taken with unclear technical motivation and objectives. In comments from NS it was noted that no special vehicle was bought for that purpose and the equipment mounted on an existing vehicle.

In brief: over a relatively short span of time, the National Society has established a WatSan Unit and considerable output is being realised. The optimal balance between volume of work and technical quality of the work done has been mentioned in previous reports and discussed in several meetings. There is consensus that quality should not be sacrificed for the sake of quantity, that the price of high ambition and a hastily approach is low quality and reduced technical sustainability. It was concluded by the Review Team that the technical quality of the projects needs to be addressed in order to improve effectiveness and sustainability in the projects. The Review Team would like to put forward the following issues for the improvement of technical standards.

i) Consistency of technology choice

In the past, different aspects of technology choice have been discussed and agreed upon, e.g. preference for gravity supply systems. In view of the critical conditions of electrical energy sources as well as the desirability of low-cost operation and maintenance of these systems, this should have been maintained as a priority. Over time, however, all projects were built using electricity as the supply source.

It is recommended that a survey be conducted in each county where NS works, looking at the potential of constructing gravity schemes with the capacity of water conveyance over considerable distances. Only when this appears to be impossible, should the use of other energy sources be considered.

ii) Standardisation of engine pump set layout and specifications

The projects show generally a wide variety of ways in which technical components were put together. In some plants, non-return valves were not placed or did not work properly, engine/pump set base plates were mounted poorly, and in virtually all projects the electrical components such as the switchboard were of poor quality or mounted poorly. All pumps should have water meters and pressure gauges. The decision to include transformers as a standard item in the technical layout was the right decision. In order to address standardisation, it is recommended that NS and Federation WatSan agree upon a standardised design for the pumping plant, inclusive of all electrical components, or of a gravity supply intake for that matter. Besides the necessity to do so from engineering point of view, this will contribute to a more effective and efficient monitoring system, improved handing-over of the project, longer-term technical sustainability and low O&M costs.

iii) Engineering standards: standardisation and improvement of safety standards of the electrical components (e.g. connections from grid, switchboard, and transformer)

In connection with point ii), it is recommended that only standardised materials - pipes, bends, valves - be used. These should not be on-site manufactured. Usage of standardised components will increase the technical sustainability of the programme.¹ In particular the electrical equipment, wiring insulation and safety standards and switchboard are installed to low standard. In this connection, the Review Team supports the decision to provide transformers as a standard component in the hardware package.

Both, the NS as well as the Federation need to address these issues. The Federation Delegates will provide for an outline, which will be discussed with the NS and adapted when needed. Once accepted, the NS' technical staff at HQ level as well as at field level will be trained to apply the technical standards. After training, the staff of the NS and the Federation should agree on a monitoring procedure.

iv) Replacement of the Submersible pumps in the 2002 WatSan Pilot project

A special case in view of the 'technical standards' discussion is need for a permanent solution regarding the poorly performing submersible pumps imported from China and installed in 14 of the 18 projects in the 2002 Swedish RC funded Pilot project. The pumps do not tolerate the jumps in voltage at end-user level and are somewhat inappropriate, as they require a special kind of greasing oil which must be imported from China. In order to solve the matter it is recommended that all submersible pumps be replaced, when possible with centrifugal pumps, even when the static level of pumping can be reduced by lowering the pump base plate and floor of the pump house.

It is a **general recommendation** that improvement of the technical standards is given priority over increased output. This is best be achieved by employing a Korean technical engineer of higher than general professional standards, specialised in electrical and mechanical engineering who would be solely responsible for all aspects of technical quality assurance in the projects. It is important to recruit a Korean national because the requirements of the local language but should also be in adequate command of English. The ability to work with local technical workers and to avoid further visa constraints.

Concerning the procurement of hardware is recommended that a plan for standardisation of equipment and materials be made and procurement preferably be done within the DPRK. The desire to use local hardware was expressed most clearly at the level of the technicians, farm managers and end-users.

3.2.7 PLANNING AND MONITORING

In December 2003, the Federation and the NS spent time discussing the 2004 programme planning. The outcome of the planning session is of some use, but quite elementary in nature. It is recommended that planning be discussed and agreed by producing:

- i) A global medium-term Work plan ('rolling' plan) for a two- or three-year period;
- ii) An Annual Work plan describing all aspects of the project cycle for projects to be implemented;
- iii) A brief Monthly Work and Monitoring plan, using MS-Project or any other suitable software;

For WatSan Planning and Monitoring it is recommended that MS-Project be used, as it is a software package well suited to water and sanitation project implementation and monitoring.

¹ Reference is also made to the report of Mr. Gullmar Hedenstaedt, WatSan Delegate (December 2003)

In the Workshop held during the last days of the Review an assessment was made of Monitoring tasks for each of the brackets in the organisation. The list does reflect the expressed need for an organised way to monitor WatSan activities by NS and IFRC rather than a worked-out overview. It is recommended to discuss and select on the most urgent issues for monitoring and develop a simple and effective procedure.

Who does monitor which activity
Community/farm level	Digging depth initial assessment
	Proper maintenance of the WS
	Quality of the construction
	Pressure testing of the system
	Technical capacity/training/work of the maintenance team
	Regularly management
	Select pumping driver
	Stable electrical supply
	Retain qualified pump operators
	Monitoring of the standard of hygiene knowledge
	Maintenance of the pump and water source
	Taps in the houses
	Working time
	Red Cross Branch
Water quality and related health data (before and after)	
Proper sanitation use	
Connections between pipes	
Quality of the casting	
Field assessment upon request	
Ongoing health promotion in the community	
Protection of well/spring area and pump house	
National Society HQ	Standard maintenance in the community
	Implementation of the project
IFRC WatSan unit	Follow up after completion
	Progress monitoring
	Monitoring of technical standards

3.2.8 OPERATIONAL/IMPLEMENTATION AND CO-ORDINATION ASPECTS

The NS is running a water quality monitoring programme with 8 persons to collect basic data on water quality, from proposed projects sites to help in the selection process and also from finished projects to guarantee safe water distribution. The current 8 monitors have been established in 2 steps, starting with 4 initially when beginning the programme and increasing the number to 8 in 2003. The review team met with one person of the first 4 monitors and another person of the in 2003 trained monitors. In discussions both showed detailed knowledge and understanding of their profession and have functioned well.

From the discussion with the water quality monitors it became clear that there is no need to continue with water quality monitoring in the same intensive mode: quarterly analysis upon completion of the water project. It was also reported that in no single case water quality upon completion of the project was unfit for consumption. As the project does not want to create structures parallel to those that the government it is recommended to reduce the number of monitors. Given the professional levels of the monitors it would be advantageous to place them in other posts in the project, for instance at branch level, as there is a need for additional human resources and capacity.

It is also recommended that steps should be taken that supply of renewables, etc. filters, chemicals, etc. should reach the monitors in time as per their need. Water quality monitors should participate in technical workshops as well as health/hygiene promotion workshops to get a full understanding of the WatSan projects and situation in the communities. Step by step with improved monitoring skills for other project activities, they should be involved for

technical monitoring as well as hygiene education and behaviour change monitoring. Water quality monitoring will be finally a less important part of their job. NS commented that number of WQM should be at least 4 as one monitor in each of the 4 Provinces, including the new South Hamgyong Province is needed.

Better relationships and co-ordination between Health and WatSan activities: in the Federation and the NS the need for this is acknowledged and examples were mentioned in the debriefing workshop of some steps taken, e.g. Health Delegates providing support in WatSan health education training in the NS. Recommendations will be submitted to strengthen this process.

3.2.9 ADMINISTRATIVE ASPECTS

At this stage the division in responsibilities for reporting have not been discussed and are not clear. The project administrative system of the NS is based on the establishment of individual project files for all projects, although they were not seen to include monitoring information. Improvements to this can be made with the entering of reports of field visits and monitoring into this system. It is recommended that the Federation adopt a similar system.

Weekly and monthly reports mainly focussing on output and delivery and not on process and impact from the Federation are readily available.

The Federation's Finance Delegate was not available for discussions for reasons of health.

The team does agree to the opinion of the Netherlands Red Cross that financial procedures concerning tendering, procurement, financial and narrative reporting may not be sufficiently enforced by the Federation, nor by the NS. It is suggested that the Federation-Geneva provide guidance and monitoring in this respect.

4 INTEGRATION OF HEALTH WITH WATSAN

The health structure reaching project villages consists of government-operated hospitals and clinics to which the Red Cross provides back up in a variety of ways. From the clinics, mobile clinics staffed by nurses and doctors visit the villages to deliver the normal package of vaccinations, nutritional monitoring of babies, curative care etc. Some co-ordination and co-operation of health and WatSan in the NS and in the IFRC delegation can be seen. The need for co-ordination has two aspects: it is needed within both structures -the National Society and the IFRC- between the health staff and the WatSan Units; co-ordination is also an issue for the health department/WatSan department in the IFRC delegation. At present there is some institutionalisation, but it still depends very much on personal relationships. Some aspects of co-ordination have also been mentioned in the 1999-2001 Health Review report.

There are regular weekly meetings amongst the IFRC WatSan and Health Delegates for information sharing and planning. Meetings also happen within the NS among the health and WatSan units. There is commitment to co-ordination on all levels -for practical implementation in daily work, information-sharing, for understanding the partners' programmes and problems, however there is not a schedule of regular meetings between the IFRC Health Delegates and NS WatSan and IFRC WatSan and NS health department. NS staff as well as IFRC staff in the two sectors expressed their interest to establish regular and institutionalised ways for further integration between the two sectors.

Within the NS, the health unit is involved in the selection of the target villages for the WatSan programme, using the health statistics. As the clinical data from the villages are used as one of the main selection criteria, further discussion on the reliability of these data would be useful. More discussion and understanding is suggested concerning the nature of the health data needed and whether this can be obtained. The key issue is whether the information is able to show whether the project is effective in changing health status of the beneficiaries.

The discussion about the quality and quantity of health data should clarify:

i) **Baseline data:** this gives a picture of the village or community before the project starts. Once the workers get going, any data collected is no longer baseline. Hospital and clinic data can show the pattern of water-related sickness. Presumably the health facilities can find information on this from the records dated from before the project started. The baseline data can be compared with later statistics to see whether WatSan is having any impact on health. However caution is needed. For instance, suppose that at the end of the project there is more WatSan-related illness than at the start! It could happen, because:

a) The link between sanitation and health is often tricky and b) a wet season or food shortages might counter the effects of good WatSan.

ii) **Proxy data:** If it is too late to collect such data from project villages, then control villages could be used for this purpose.

iii) **KAP baseline information -health and changing behaviour:** Changing people's behaviour in hygiene and WatSan is a difficult task. To make it easier, the project needs base-line data on Knowledge, Attitudes and Practice (KAP) concerning water, sanitation, waste disposal, illness and WatSan. If no information is gathered on these topics then the use of facilities and the impact of health education on poor habits may be less effective than planned. If little is known about this, there should be discussion as to whether some non-project villages with matching profiles could be studied and compared with the target communities.

iv) **WatSan linked to CBFA:** Among several criteria (see attached list) one is to select villages where the ongoing CBFA programme is held. In some villages there is overlap of CBFA and WatSan, but not in most of the selected villages, as it is not seen as a particularly important criteria. CBFA should remain one criterion and should be given more importance for further linking the health and WatSan programmes.

v) **Data exchange among the partners:** IFRC health delegates should be integrated in the discussions on the selection process as well as other actors in the field of WatSan. Data on the general health situation within the country should help to identify and justify those areas where the WatSan projects are implemented.

vi) **Village level Health Education:** If health initiatives have the help of WatSan, it has better access to the target groups. A community-based participatory approach is the basis and PHAST is the standard tool for this process within IFRC, which can be adapted to the specific cultural situation of the different regions or countries. In several of the villages where a water supply system has been installed, hygiene education is given by the health unit of the NS as part of the health programme. The trainers attend workshops on water-borne diseases (WBD). These are held on community level (2-3 per year) by persons who are trained in a ToT workshop at the provincial/county level (2 days ToT for the volunteers with as goal is to have one trained person per 500 target population). It goes without saying that this is a useful approach but at the same time training effectiveness assessment by the NS is needed. From experience it is known that it is difficult for volunteers to learn enough in such a short time: community health educators need a good understanding of why people act as they do and skills in persuading them to change¹. For numbers of persons trained, reference is made to section 3.4.2. The report of the Delegate on numbers of participants of the Water Borne Diseases Workshops-2003 seems to be considerably lower.²

Villages and communities welcome the chance to have WatSan as well as the chance to have some health provision. People are more willing to participate in health education/promotion when they also receive something which improves their living conditions at the particular moment (anti-malarial, water, sanitation). Therefore, a combination of WatSan and health - WatSan with hardware and software - increases the effectiveness and sustainability of the programmes.

Recommendations

1. The WatSan programme implements considerable health education, but could do more to assess effectiveness; it should ensure that it makes real improvements in the health of the people. Health Education needs to bring about behavioural change. The link between Health Education and behavioural change in hygiene and sanitation is decisive, but a long-term and difficult easy process;

2. To strengthen Health education, both the WatSan volunteers at branch and community level and the outreach nurses and doctors should be actively involved, while it is suggested that training in the skills of Health Education be expanded to help them bring about behavioural change;

3. The NS and IFRC health staffs, responsible for project planning, may have to look at this whole issue of 'How the Health Education component should be implemented'. A workshop to take inventory of the existing structure and tools, to brainstorm for improvement and to institutionalise the integration of health and WatSan should be held to round up the efforts

¹ A possible resource is "Health Education for behaviour Change" downloadable at www.networklearning.org

² Reports: Waterborne diseases workshop, 2002-2003

which have been put into this process.

Specific issues include:

- The overall approach: which should be community-based and participatory. The PHAST approach could be used; alternatively the project could work through a felt problem such as diarrhoea in small children; this is often of serious concern to mothers;
- The skills that need to be transferred: the KAP linked to these behaviours;
- Which data would best measure success for the project? The percentage of mothers washing their hands to a “good” standard after using the latrine and before cooking or feeding children is clearly one, or mothers reporting that there is less illnesses among family members, or that they can now take showers more often;¹

4. Better processing of the data to measure the success of the project and to integrate these data into final reporting would improve the quality of the programme;

5. For further improvement of the output of both programmes, better co-ordination and co-operation would contribute to an integrated approach of Health and WatSan, avoiding duplication, achieving a community-based approach, delivering health and hygiene messages, working on the design of the programme and achieving a common benefit of overlapping of activities.

6. A hygiene promotion booklet was produced by the WatSan team. After translating the booklet into English, input from the health delegate and team should lead to a revised version which will be printed in greater numbers, after harmonising with the flipcharts etc to deliver a common message to the population which results in changes in health-related behaviour.

¹ A checklist that specifies what is a “good” standard can be found on the website of the International Resource Centre – www.irc.nl. The same kinds of standards should be applied to the other skills.

5 REVIEW IN TERMS OF THE LOGICAL FRAMEWORK

This section summarises the Review using the following criteria: **Relevance; Efficiency; Effectiveness; Impact; Sustainability** and **Replicability**.

5.1 RELEVANCE¹

Relevance of the concept and approach: Most projects are implemented within the Work Team communities at the agricultural farms. The projects do address people in need of improved WatSan, organised in 'working groups' within the farming system. The criteria used to distinguish between the 'working groups' who are and those who are not included in the project could not be evaluated by the team. In all projects visited and others discussed, the beneficiaries feel that the project does address their need for improved WatSan. In all projects visited, they respond with strong and effective participation and input by providing manual labour and storage of the materials. In terms of strategy towards better O&M and sustainability, it is recommended that more needs to be done to establish and train Water Committees in charge of Operation and Maintenance. The assistance of the Red Cross to the rural communities in the WatSan sector is in particular relevant given the economic conditions in the country which hit hard on the conditions of life of many in the rural areas.

5.2 OBJECTIVES AND ACTIVITIES

The project has the full support of the local and national government and addresses the priority needs of the rural communities who many of them have inadequate water and sanitation to their disposal. Adequate criteria for selection of the target group have been developed and in most cases adhered to. It is recommended that the project proposals would indicate in greater detail differences in needs between different 'Work Groups' homes, thereby using indicators agreed upon.

The objectives and related activities are relevant, although concern exists about the under spending in the 2003 NLRC/ECHO funded project as well as the Swedish Red Cross funded project part. Improved More Planning –two year work, annual and monthly work plans- with an adequate monitoring procedure is an urgent recommendation.

More attention needs to be given to the effectiveness of activities which address the objective of Health Education.

5.3 EFFICIENCY²

Concerning organisational efficiency: The DPRK Red Cross implements the projects through its Pyongyang National office and its provincial branches. At the national level a separate WatSan Unit within the Health department is responsible for the programme. The decentralised structure of the Red Cross organisation, which consists of branches with support of many volunteers and sound relations with local government, is an advantage in view of project implementation. Not all branches are functioning optimally and this points at the need for capacity development of the branches. This would benefit the project implementation at the local level. This structure is very efficient and effective in reaching the target population and involving them in the project implementation and potentially in O&M.

¹ Relevance is defined as the choice of beneficiaries and the deployed strategy in relation to the identified needs.

² The key question under 'efficiency' is whether the same or similar results have been achieved at lower costs.

The International Federation of the Red Cross and Red Crescent Societies provides support to the WatSan programme as implemented by the National Society. The emphasis in the WatSan unit is predominantly on support to the implementation process while issues like support to planning and monitoring by the NS have not sufficiently been dealt with. It is a recommendation of this review to strengthen the planning, management and monitoring capacity of the National Society. Management would need to be stronger linked to monitoring. Planning would focus on a detailed annual and monthly work plan and monitoring, especially to field observations, both process and delivery information, to management. It is also recommended to monitor better the health impact upon completion of the project.

A more detailed formulation of the support role and input delivery of the Federation WatSan unit would benefit the efficiency of the Technical assistance role of the Federation.

A project administration and financial management of the project requires corrections as both phases of the current project were considerably over-budgeted or underspended. At the time of the review there was no information available to find out whether it was actually overbudgeting or underspending, and time was not available to follow this matter afterwards. More precise budgeting and detailed reporting procedures are recommended for future projects.

The cost efficiency of the second phase programme is within generally accepted financial unit-cost criteria for improvement of piped rural water supplies: 51,200 direct beneficiaries¹ against a project expenditure of Euro 1,400,000 or Euro 27,34 per capita.

It is recommended that along with the need to provide a clearer picture of the 'working groups' included in the programme and those who are not included, formulate the criteria used to discern between them, there is a need to determine the total number of beneficiaries of the project.

All local or international procurement of material input has been done in accordance with standard tender procedures.

5.4 EFFECTIVENESS²

The project has been effective in terms of the relationship between activities, results for each of the projects implemented. It is too early to assess fulfilment of the purpose. As the water in all projects visited has been of good quality, water is no longer a factor negatively affecting health in the communities served. It should be noted however that even though there is adequate water, there are several other factors, e.g. lack of food, poor environmental health, which may lead to poor health statistics. The objective of health improvement hinges strongly with the strengthening of the health education component and is decisive for actual health improvement. The health education component needs improvement, as mentioned elsewhere in the report. In all places visited, beneficiaries were spoken with and all expressed satisfaction about the benefits accrued from the projects. The RT is of the opinion that it is probably that this may be generalised for all projects.

Concerning the construction work and hardware components' assembling the project has not achieved adequate standards. Technical standards for design and detailed specifications for the construction need to be developed, implemented and monitored. Technical staff at all

¹ It was noted that not all documents quote the same number of beneficiaries, e.g. 51,200 people mentioned in the FPA. Other documents mention different numbers of beneficiaries.

² Whether the project has addressed the objectives in quantitative and qualitative terms.

levels in the organisation need to be trained in this regard and the technical component better monitored.

It is envisaged that all projects in Phase 2 as well as in Phase 1 need to be checked on technical shortcomings. It is recommended to employ a qualified Korean engineer who would be specifically assigned with quality control.

5.5 IMPACT

It is a world-wide experience that the health impact of water and sanitation projects cannot be assessed within periods shorter than one year, given for instance seasonal influences. For this reason no definite statement can be made about the impact of the programme, as the projects have been commissioned only recently. It is however most likely that water and sanitation development in the setting of the projects of the National Society will achieve positive impact for the target group as in all cases there is high quality water virtually without interruption. In order to achieve the full health benefit other factors which would diminish the positive effects of WatSan within the communities, need to be identified and neutralised. The question of sustainability as derived from impact is generally positive in view of the organisational and financial sustainability. The technical sustainability is a weak factor, given the generally low levels of technical work achieved. (See 5.4) The water projects do not have adverse effects on the environment, as water abstraction is generally low given the aquifer capacity in the project areas visited. The EcoSan latrines are a special design in view of safeguarding the environment.

Impact of a different kind comes from the longer-term benefits for the National Society, its organisational development and development of professional skills and knowledge. There is also a positive influence in the sense that the communities feel they are helped to develop as a reward for their input.

5.6 SUSTAINABILITY

Institutional sustainability: is considered to be high, given the way the project implementation in most cases was embedded in the local structures of the NS-Branch with staff and volunteers, the farms and last but not least the observably high motivation of the communities. It is recommended however that, in addition to the input of the farm/management in O&M, each project should be administered by the users themselves through a Community Water Committee, established and trained to ensure long-term Operation and Maintenance. It would seem very appropriate to request the farm technicians to provide technical support when needed. Handing over of the project to the community is done but is in actual fact rather uncertain, as within the communities themselves there are no strong bodies to take responsibility for the project.

Technical sustainability: This is a critical area, which needs to be addressed urgently, has been noted elsewhere in this report. This includes the area of systems design and understanding specifications as well and the procurement and construction activities. Considerable work is left to be done on most projects in Phase 2 to check these against technical shortcomings which need to be addressed before handing over to the users.

Technology choice has changed over the past years. This may have been influenced by the short-term nature of WatSan Delegate deployment and limited experience in the NS WatSan Unit. Examples are the initial prioritisation of gravity water systems over pumped systems, instalment of submersible pumps at sources where a centrifugal pump would perform well, etc.

Financial sustainability: It was said that in virtually all cases the users financially contribute to the expense of the pumping, which is included in the –subsidised- bill for consumption of electricity borne by the communities on the farms. This however is beyond observation of the RT and would require closer audit. In no case was reluctance expressed in the communities to pay for the supply of water.

Environmental sustainability: Pumping at the present rate is rather low and does not threaten seriously the water sources, mostly wells or springs. The pressure to construct boreholes while in most counties ground water is readily available from wells or springs is not understood by the RT and given the relatively high expense, low availability of drilling equipment and the risk of salinity of the ground water, this is not recommended.

5.7 REPLICABILITY¹

Taking the comments and recommendations in this report into consideration, the technology, the operations implemented and the results obtained, the potential for replicability is adequate.

5.8 GENDER

In terms of gender awareness women and children are the first ones among the beneficiaries to be addressed by the programme and benefit most, as they are the foremost part of the society handling with water and sanitation on a day to day business.

In the WatSan units of the NS -except as field technician/water quality monitor- as well as in the Federation at the level of senior staff there are no women involved. None of the staff met at Branch level were female although a number of farm managers were women and showed project infrastructure which was without exception impeccable. It is recommended to employ competent women staff at each level in the programme.

¹ Whether the project approach is generally appropriate in the context of culture, organisational capacity and environment and can be principally replicated by the local implementer

6 IMPLEMENTATION OF THE 2002 REVIEW RECOMMENDATIONS

The WatSan 2002-Review, section 4, page 25 contains a number of useful recommendations. In this section an assessment is made of the degree of implementation of the recommendation.

Concerning: Staffing

1. to meet the objectives of providing for 100 settlements by the end of 2004 staffing within both the Federation and the National Society will need to be greatly increased...:

Comment: Staff has been increased as recommended in both WatSan Units.

2. Support from ECHO -regarding personnel assistance- should be actively solicited....

Comment: Funds for Phase 2 were applied for and obtained.

Concerning: Project design and planning

1.Wastewater components should be integral to water supply projects and incorporated from the start....

Comment: Implemented

2. Sanitation work should re-focus on institutions, particularly health centres. This will involve some change in project plans, and consultation with donors.....

Comment: A beginning has been made, e.g. EcoSan at health centres.

3. More care should be taken to select settlements for WatSan projects on the basis of agreed criteria.....

Comment: Criteria have been agreed upon, has however not yet lead to a noticeable change.

4.In selecting settlements for WatSan projects some priority should be given to those where the Red Cross is already active, particularly in the CBFA and CBDP programmes.

Comment: No noticeable change.

Not realistic as 70 percent of target groups are already have either CBFA or CBDP activities.

5. In addition to criteria already established, logistical factors should become an additional criterion in the selection of villages. Some priority should be given to groups of eligible villages that are close to each other, so minimising the travel necessary for project implementation and monitoring.....

Comment: Some limited improvement has been achieved in the second phase compared to the First Phase.

6. Whilst financial constraints need to be borne in mind, a specific financial ceiling for individual WatSan projects should not be imposed.

Comment: The planning does focus on considerable numbers of projects and beneficiaries served and consequently an optimum amount is agreed upon. There is no overall ceiling or per unit cost approach and policy.

Concerning: Co-ordination

1. Consultation between the WatSan and Health departments of the National Society should be set up on a systematic basis....

Comment: Efforts have been made, although not yet on a systematic base

2.Consultation between corresponding sections of the National Society and the Delegation should also be established on a systematic basis.....

Comment: Efforts have been made, although not yet on a systematic base

3.Mechanisms for joint monitoring and sharing of information should be set up between WatSan and Health Departments. A shared database should be established

Comment: Not implemented

4.Improved logistics and more efficient use of transport should be an important objective of improved co-ordination between departments.....

Comment: Not dealt with in this Review

Concerning: Training

1.WatSan staff should participate more actively in training undertaken by Health Department staff related to water and sanitation.....

Comment: WatSan Technical training and Health Education training still in adequate and not sufficiently internally evaluated

2.Further assessment is needed of the impact and appropriateness of training of community workers in hygiene, sanitation and water-borne diseases. This can be undertaken as part of the forthcoming Health and Care Programme Review.....

Comment: see next recommendation

3.Training in water source protection and latrine construction should be targeted at those with some chance of practical follow up.....

Comment: Not implemented

4.Efforts should be made to monitor and assess the activities in the community of people who have participated in training.....

Comment: No information available.

5.There is a need for more structured training of NS technicians and those responsible for WatSan maintenance at a community level.....

Comment: Not implemented

6.Sanitation programmes are possible, but will always require more effort and energy to implement. To date wastewater and sanitation have been much weaker components of the WatSan programme. Training initiatives within the programme need to be better targeted; further assessment is needed to establish their impact.....

Comment: The introduction of EcoSan as a pilot project has been a useful initiative, especially coupled to the generation of BioGas. In overall programmatic terms, the Sanitation component has not been strengthened, although additional Health Education training has been arranged for.

Concerning: Management and general

1.The responsibilities of the Federation WatSan co-ordinator need to be clarified and prioritised.....

Comment: Said to be clarified and responsibilities are listed in the job description

2.Reporting responsibilities for WatSan delegates to Geneva and Bangkok, as well as to donors, need to be clarified and implemented.....

Comment: Said to be clarified

According to the Co-ordinator instructions were given during his briefing in Geneva in May 2003 The ToR agreement between ECHO-NRC-IFRC there are given clarifies on contents and dates for the reporting. Since mid 2003 these reporting routines were followed by the DPRK delegation.

3.The National Society should be more closely and systematically involved in the reporting processes undertaken by the Delegation.....

Comment: Not implemented.

4. Greater priority should be given to liaison with other stakeholders operating in the WatSan field in DPRK

Comment: Contacts with NGOs and UN agencies have been established.

7 OVERVIEW OF KEY ISSUES

7.1 OPERATIONAL CAPACITY

The DPRK has been able to establish and operate a WatSan Unit from within the Health Department with support of the IFRC WatSan Unit. Staff in the Red Cross has increased over the past years and is well in line with the requirements. Finding WatSan Delegates has been difficult, especially during 2000 to 2002. See next section. In conclusion it may be stated that the Red Cross, with support of the IFRC, has developed and to some extent consolidated considerable operational capacity.

The output of the projects over the past years has been well in line with the project objectives, however, as the organisation is relatively new, the planning, monitoring and management of the different phases of the project cycle has been a new experience. As a consequence, most of the projects started on time but ran into delays for various reasons. Some of the delays are non-operational, e.g. in Phase 2, they are related to late approval of funding (ECHO) and limited capacity to pre-finance the project between approval and arrival of the funds (IFRC/NLRC).

The dependency on donor funding approval and procedures, however, is a common experience and can to some extent be integrated into the planning and management of projects. The main recommendation would be to strengthen the planning and management capacity of the Red Cross while IFRC WatSan Unit should provide more quality input into the planning process and support.

Another example of fast organisational development while planning a very short cycle is the employment of a relatively large number of Water Quality Monitors, who essentially form a parallel structure to those that the government has established and maintained. It is recommended that the number of Water Quality Monitors be reduced to one person for each province (three in total) over the next year.

In the report a risk analysis has been provided and responses identified as to how to reduce the individual risk factors.

7.2 CAPACITY DEVELOPMENT OF DPRK-RED CROSS

The capacity development of the Red Cross follows from an agreement between both organisations and is operationalised through the IFRC office and WatSan Unit in Pyongyang. During 2000 to 2002 there has been one to two Delegates available at a time. Over most of 2003 there were three Delegates, which is the number required to carry out the task of supporting the Red Cross. Constraints mentioned were the difficulty of obtaining visas for the Delegates without delay and also the recruitment of the right person. According to the Red Cross, the government has granted visa approval for two permanent posts and one nine-month post. In further discussions on this matter it would be useful to have this confirmed by the Red Cross and by the government.

The number of staff in the Red Cross has increased in line with recommendations in the 2002 Review; staff is competent and highly motivated to develop the organisation further for the benefit of the target groups. The question of the third full time WatSan Delegate instead of presence of a Delegate, approved by the GoDPRK to join the programme during two peak operational periods¹ (planting season February to April and that after the harvest, from September to November), remains still unresolved.

¹ Information from DPRK-NS

The preferred number of delegates is three full time delegates, the situation like it is now (2 full time delegates, one delegate for 9 months) is the absolute minimum and hard to run the programme at a reasonable quality level.

The number of staff in the Red Cross has increased in line with recommendations in the 2002 Review (but still not reached the number of 3 full time delegates); staff is competent and highly motivated to develop the organisation further for the benefit of the target groups.

The efficiency of the support role of IFRC could be further improved by discussions and agreement between the two WatSan Units on the key issues for capacity development, with clear identification and agreement of the mutual roles played. Improving the effectiveness of the IFRC WatSan team would possibly increase the effectiveness of new staff employment. In the Debriefing Workshop an inventory was made of areas in the DPRK Red Cross where capacity development is most relevant.

7.3 INTEGRATION OF HEALTH WITH WATSAN

Co-ordination of health and WatSan has to be achieved within both structures as well as between them. There is commitment to co-ordination on all levels -for practical implementation in daily work, information sharing, for understanding the partners' programmes and problems. At present some co-ordination is institutionalised, but much still depends on personal relationships. Meetings are held regularly within both organisations but there are few joint meetings.

An important area of joint operation of the Health staff and WatSan staff is the need for health information, used for the selection of the target villages for the WatSan programme. There is presently no coherent understanding between both organisations over which information is essential and how to obtain it. It is recommended that the NS and IFRC health staffs, responsible for project planning, should share their experience in a joint workshop, to look at the whole issue of: 'How the Health Education component should be implemented'. A workshop to take inventory of the existing structure and tools, e.g. the hygiene promotion booklet, to brainstorm for improvement and to institutionalise the integration of health and WatSan should be held to round up the efforts which have been put into this process.

It is further recommended that the Health Delegates would support the Red Cross in the collection and usage of Baseline data, Proxy data, KAP baseline information -health and changing behaviour, how to link WatSan to CBFA activities, Data exchange among the partners and village level Health Education approaches.

7.4 GENDER

In terms of gender awareness women and children are the first ones among the beneficiaries to be addressed by the programme and benefit most, as they are the foremost part of the society handling with water and sanitation on a day to day business.

Both WatSan units have only men employed while the WatSan assistant in the Federation is female. In the health sector staff several female staff have been employed. It is recommended that both WatSan units employ qualified female workers.

7.5 NEW COMPONENTS AND INNOVATIONS IN CURRENT AND FUTURE PROGRAMMES

- a) The introduction of EcoSan as a pilot project in Phase 2 has been a useful initiative, especially as it can be linked to the ability at family level to generate BioGas. The

opinions gathered in the field however, suggest that the users do not favour the EcoSan latrines, especially as the long winters, short summers and the cost of construction affect its functioning, which is higher than that of the improved local latrine. BioGas generation has been certainly of interest, but is not exclusively linked to the EcoSan latrine. It is also generated by the more cost-effective traditional latrine. A final decision about the way forward should be taken only after a systematic evaluation.

- b) The decision to provide transformers to each of the pumping stations to eliminate jumps in the electrical voltage was correctly taken. It is recommended that the same decision be taken in all projects in future.

ANNEXES

ANNEX 1: TERMS OF REFERENCE

International Federation of Red Cross and Red Crescent Societies

Review of the Red Cross Water and Sanitation Program in the Democratic People's Republic of Korea

DRAFT Terms of Reference 17 - 28 February 2004

1.- Background

The Democratic People's Republic of Korea, founded in 1948, has maintained the principles of socialism and self-reliance developed under the guidance of President Kim Il Sung and the aegis of the Korean Workers' Party. The social and political environment has very great implications for all agencies working in the country.

Economic progress was considerable during the first three decades of the DPRK. However the demise of the Soviet Union and of the socialist states of Eastern Europe, along with economic and policy changes in China, led to a sharp decline in the international trade of the DPRK, with major implications for the DPRK economy. In 1995 the country was hit by devastating floods which destroyed a good part of its harvest and damaged infrastructure, notably of water supply systems. For the first time in its history the country appealed for international assistance. Further floods in 1996 were followed by a drought and tidal wave in 1997. These natural disasters exacerbated a situation which was already becoming serious.

In recent years there has been some progress in the rehabilitation of the infrastructure and economy of the DPRK, though huge problems remain. 2002 saw some significant changes in economic policy, as well as continuing positive progress in relations with neighbouring countries. In October these received a setback with renewed tensions with the USA in particular over the question of nuclear proliferation. The impact of these setbacks on energy supplies particular significance.

Recent years have seen an improvement in energy supplies within the DPRK. Outside Pyongyang however electricity supplies are still limited and intermittent - availability has been seen to vary between one and twelve hours per day, depending on the location and the time of year. Oil imports, which were included as part of the 1994 nuclear non-proliferation agreement between the DPRK and the USA, are estimated to cover 25-50% of the energy used in DPRK. These oil imports have been cut, and it is clear that the loss of this energy source will have a serious impact, with wide-ranging implications, including for the functioning of health institutions, as well as for the functioning of those water supply systems which rely on electricity for their operation. It is difficult however to estimate the extent of the impact on the WatSan program or other Red Cross operations.

2.- Water and Sanitation Situation

Water sources in sites visited varied from spring, river, ground and irrigation water respectively. Most sites seemed to be contaminated with either pathogens (viruses, bacteria, protozoa and Helminths) and or with chemicals (fertilizers, mining areas).

Most sources in the coastal, reclaimed areas of old sea are also contaminated by salt water. Flood damage in combination with lack of maintenance and irregular supply on aging systems (often dating back to the 1930s) are however the major causes of unreliable piped water systems. In some areas where systems are still being used there are leaks, which allow for infiltration and contamination of water. The limitations in water source alternatives especially in the coastal areas and the use of shallow wells and irrigation water and rivers increase the problem of unsafe drinking water availability.

The most common water source in rural DPRK is shallow hand dug wells. They can be either communal or in individual compounds and water is extracted by either a bucket or a motorised pump. Some wells are protected, some or not. The depth ranges from about 5-15 meter and the walls of the wells are constructed with stone setting. Since water can easily penetrate through the walls, contaminated substances can do the same. The water in these wells often contains high level of e-coli bacteria. The second most common source is natural rivers or canals, which are also used for irrigation. A problem for all water sources is contamination due to a lack of proper sewage management upstream and around wells and contaminants derived from fertilisers and chemicals from intensive agriculture.

Latrines within the country are most commonly open pit and over-hanging and therefore are a major source of disease due to contamination of water sources and lack of general hygiene. In addition such facilities and current practices mean that no vector control exists to prevent flies and mosquitoes and other vermin as well as ventilation to disperse bad odours. A common practice, due to lack of chemical fertilisers and traditional farming, results in semi-fresh night soil (faeces) being applied to the fields again resulting in contamination of food and water supplies.

In both households and health institutions latrine facilities are often very poor and the need subsequently exists for either the construction of new latrines or rehabilitation of existing ones.

Improper sewage handling (household water waste) is identified as one of the main contamination factors of ground water sources. The drainage systems in most areas are open and exposed and thus a serious potential source for disease spread.

3.- Previous Red Cross Water and Sanitation Projects

Following the floods and tidal inundations of 1995 and 1997, many water sources were destroyed and/or contaminated with saltwater, especially along the west coast in the salt-affected districts. Even more significantly, chronic lack of maintenance on ageing established piped systems has caused them to degenerate to a state whereby systems no longer function; they are often even beyond repair and need total rehabilitation. Hospital statistics in affected regions, though they should be treated with caution, indicate an increase in patients with diseases linked to poor water quality. In view of this, a water and sanitation project supported by the IFRC and financed by Swedish Red Cross was initiated in 1999 with the objective of rehabilitating or improving WatSan systems in 147 health institutions. The project, which was implemented over a three-year period, included:

- Rehabilitating and improving the WatSan systems in one provincial hospital, 36 county hospitals and 111 ri-clinics and hospitals;
- Providing 1,692 institutions with a total of 4,282 water filters.
- Training hospital/technical personnel in the operation and maintenance of the WatSan systems; and
- Training DPRK Red Cross water quality monitors in the testing of bacteriological water quality.

This program was concluded in July 2001, but the domestic water and sanitation situation in most of the villages and communes where the Red Cross has been working remains precarious. In 2001/ 2002 an 18 village pilot project was implemented, providing water supply systems also financed by Swedish Red Cross.

In 2002 a 20 villages program started with 5 villages financed by Swedish Red Cross and 15 by Netherlands Red Cross and financed by ECHO.

The purpose of the new program is to improve the livelihood and well being of rural community members in Ri (rural) and Dong (urban or peri-urban) settlements. The aim is to

- Upgrade and assure water supplies for human consumption (water supply systems and waste water management systems),
- Promote health education at community level as well as technical support for sanitation upgrading and
- Strengthen the capacity of DPRK Red Cross in addressing these issues.

The program has a preventive rather than a curative approach and has been planned to run for a period of three years totally covering 100 villages. The target group is the rural population living in Ri-villages or Dong-settlements adjacent to towns, with populations averaging 6000 people. Each Ri or Dong is evaluated individually with a view to establishing the best means of solving the settlement's problems of drinking water availability and wastewater management. Since each situation is specific, the applied solutions vary from upgrading of existing water sources, rehabilitation of water and waste water systems which have deteriorated, and identification of alternative water sources and implementation of new water and waste water systems.

Swedish RC will continue their support to the new water and sanitation project in the DPRK, covering approximately 25% of the total project budget in 2003. This assistance will target ten vulnerable communities in the North Pyongan and South Pyongan provinces, identified by DPRK NS and the Federation, this programme has already started. Funding for Swedish RC assistance is coming from Swedish RC own resources, in addition to the Swedish government.

ECHO has supported the Federation/ DPRK NS water and sanitation programme through a contract with the Netherlands RC since 2002. This programme supported 15 villages and was finalized by 15 June 2003.

The targeted beneficiaries of the project are the vulnerable communities identified in the areas where the IFRC has been supporting the DPRK NS, i.e. North Pyongan, Chagang and South Pyongan provinces. Members of the local community are mobilized in the assessment, rehabilitation, installation, and maintenance of water and waste water systems, the conduct of health education, follow-up, and monitoring and evaluation of project activities. An estimated 600,000 beneficiaries in a total of 100 villages are targeted over the 3-year period. Criteria for project selection were to include:

- National Red Cross identification of vulnerable rural communities
- On-going CBFA training and DP training in the community
- Previous inclusion in the curative programme aimed at improving the water situation in health institutions
- Hospital records over in-patients or health related data
- Water quality results
- Water quantity availability
- Size and technical feasibility level of project design
- Cost per beneficiary

Alongside the technical assistance is an important component of health education on water-related diseases and health care. Parallel to the implementation of water systems, there are workshops covering the training of local technicians to operate and maintain the installations.

A WatSan review took place in November/December 2002. From the reviews recommendations following steps have been taken:

IFRC WatSan team has since mid 2003 two delegates contracted for 12 months and one for 9 months. NS WatSan team has now six technicians. Wastewater components are now integrated in the water supply projects and incorporated from the start in 50 % of the targeted villages. Locations where Red Cross is already active is given priority in the selection of villages. In addition to existing criteria's also logistic factors are now an additional criteria for minimizing the travel necessary for project implementation and monitoring.

However there is also a request from donors to expand the program to new areas. In some of those areas also other NS programs already are ongoing and a co-ordination for logistic and transports can be established. Improved logistics and more efficient use of transport should be an important of co-ordination between departments. Joint monitoring has been implemented between WatSan and Health Departments.

The responsibilities for the Federation WatSan coordinator is now clarified and prioritised. There is now a clear structure for the reporting from WatSan delegates to IFRC Bangkok and Geneva HQ as well as to donors. Regular meetings and contacts are kept with other stakeholders and organisations operating in the WatSan field in DPRK.

4.- Current Water and Sanitation Project

During 2003 health clinic and household latrines were constructed as a pilot project in 23 locations as part of the sanitation component for 20 villages program. The program followed the same design as the ecological latrine project under implementation by the Red Cross in Southern China. The concept aims firstly at separating faeces and urine, and secondly enabling the safe composting of the night soil in one of two chambers below the latrine. The component required for the success of the project is a plastic or fibre glass stool that can be rotated over of the two chambers once either one has reached full capacity. Other components include the use of a jerry can for collection of the urine and a vent pipe for the dispersal of bad odours.

Lessons learnt so far from this program have revealed that the latrine design allowed for the storage of faeces that would compost for less than six months. Composting of night soil traditionally follows the cultivating season therefore is applied after very short periods of biodegradation. These periods can be as short as 1 month and therefore the high risk of contributing to the contamination of food and water supplies. The acceptance of allowing the night soil to compost for at least 6 months in the ecological latrines therefore will be the main indicator for the success or failure of the project especially for household latrines. In Phase 2 of the ECHO funded project (30 villages) it is planned to construct the ecological latrines for the health clinics first to gauge the response of the community, given that they are have requested assistance to do so, prior to constructing household latrines. Workshops on the design, construction and concept of the latrines will be held in various locations also prior to the implementation of the project.

Waste water collecting systems will continue to be implemented in those villages where the water source is immediately downstream and in close proximity to the village resulting in a high probability of contamination, as in Phase 1 (20 village project). As villages upgrade their water systems with taps in individual houses then the risk of contamination and increased volumes of waste water (grey water) will also increase due to the lack of reticulated sewage systems in rural areas.

Assessments into the functionality and therefore sustainability of the water supply systems provided for some of the 18 village pilot project have shown that submersible pumps are not working to their full capacity or have burnt out motors. The reasoning can be attributed to a combination of either lack of or poor training of pump house keepers in the respective villages, a very unreliable power supply, lack of transformers to step or down the power supply and or cables to adequately distribute the required voltages. Such assessments will be ongoing but are limited to the knowledge of current delegates who do not possess the relevant expertise with regards to electrical engineering and power supply. The technical capacity of the DPRK NS technicians has also revealed to be inadequate to deal with some core issues that ultimately pertain to the success or failure of the systems.

5.- Main Objectives of the Review

- To review the progress and achievements to date of the DPRK NS/Federation water and sanitation programme against the programme objectives and verifiable indicators. Special attention will be given to the operational progress and delay factors
- To document the strengths and weaknesses of the programme and to develop recommendations on the design and future implementation of the water and sanitation project. This will be done in a participatory way whereby the staff of the DPRK in a workshop will take part in the planning for the 2004 programme.
- To evaluate and assess the feasibility of introducing new components and or initiatives linked to the water and sanitation area into the current and future programmes.
- To provide technical and operational feedback where deemed necessary.
- The evaluation will report its findings, conclusions and recommendations using the terminology of the logical framework/project cycle management.
- The mission will assess the effects of procurement procedures on the implementation.

6.- Scope of the Review

- Document the progress and achievements of the project
- Assess the impacts of the project on the beneficiaries communities
- Assess the assumptions made in the project intervention and review it's relevant
- Determine the linkages with other NS activities and how it can be better linked with other NS programs, particularly health and care.
- Highlight key issues and needs to be addressed by the Federation and National Society to improve the project's output
- Analyse the management, implementation and monitoring system of the project and potential areas for enhancement
- Review the project's activities to assess the level of incorporation of past reviews recommendations
- Examine past project in Wat-San and determine the level of sustainability to ensure lessons learned for potential future projects

7.- Methodology

Prior to the commencement of the Review, the DPRK NS and Federation delegation will share the ToR to partners involving in the programme such as Donor Representatives (ECHO, Swedish Embassy) with the aim: of sharing vision for the purpose, scope and methodologies to be used in the Review.

The team will meet with the Public Health Unit Manager of the GVA secretariat for preliminary discussion in Beijing before visiting DPRK. In DPRK the team will conduct the Review on a Qualitative and Quantitative basis through;

- Group discussion/meeting
- Documentation
- Observation
- Key informants
- Meeting with other players in the WatSan area

At the end of the Mission the Team will facilitate a meeting with DPRK NS in order to:

- present initial review findings and recommendations;
- provide an opportunity for the NS to consider the outcomes and provide a feedback; and
- build consensus and a sense of ownership of the findings and recommendations.

Time permitting the Team will also have a meeting with, Federation stakeholders and donors (ECHO, Swedish Embassy) to present the same.

8.- Team Composition:

- Wolfgang Stöckl, Team Leader, (Senior Officer, WatSan Dept., Fed. Secretariat)
- Wim Klaassen, Wat-San consultant/reporting writer

9.- Review Outputs:

A draft summary of the report should be produced within one (1) week of the completion of the Review to be presented to the partnering Societies arriving in DPRK March 6 2004. The report will be shared with the DPRK NS, Federation Delegations in DPRK and Beijing and relevant donors for comment. The Complete Final Report will be ready for wider distribution by mid April 2004.

The Review Report should include - but is not limited to - the following components:

- (i) Table of Contents
- (ii) Executive Summary
- (iii) Background
 - a. Term of References
 - b. Methodology including source of data, data collection, people and places visited
 - c. Quality and reliability of data
- (iv) Findings
- (v) Conclusions
- (vi) Recommendations

10.- Lessons Learned Document:

A separate document providing an outline of the constraints and achievements of the evaluation process and lessons learnt for future, similar processes in DPRK should be prepared as well.

11.- Debriefing:

A first written draft would be very useful to have at the donors meeting in Beijing during the first week of March. After the review period a WatSan meeting needs to take place in Beijing on 1 March to further discuss the findings of the review for a presentation on the donors meeting in Beijing 2 to 5 March. During this meeting on 1 March also the WatSan review team leader's participation is needed.

ANNEX 2: PROPOSED WORKSHOP AGENDA

PROPOSAL FOR DEBRIEFING AND PLANNING WORKSHOP WITH DPRK- RED CROSS NATIONAL SOCIETY

1. Dates: Thursday, 26 and Friday, 27 February, 2004

2. Participants:

- ✧ Leadership and staff of DPRK-NS
- ✧ Representatives Government of DPRK
- ✧ Representatives of IFRC/Neth.Red Cross
- ✧ Other representatives

3. Facilitator/Consultant:

Wim Klaassen, QUEST-Consult (the Netherlands)

4. Proposed workshop agenda (in brief)

Thursday: Morning session

- i) Review of the fieldwork: conclusions
- ii) Comparison of the Water project planning and implementation progress

Thursday: Afternoon session

- iii) Analysis of main reasons of progress and delay
- iv) Conclusions on Strengths and Weaknesses of the water project

Friday: Morning session

- v) Planning for 2004/'05
- The Workshop will discuss and formulate recommendations regarding:
- organisational capacity development
 - staff capacity development
 - constraints beyond DPRK-NS control

Friday: Afternoon session

- monitoring procedures
- overall Plan of Operation for 2004/'05

ANNEX 3: ITINERARY OF THE WATSAN REVIEW TEAM (FEBRUARY 17-28)

- Feb, 17 AM
(Tue.) PM Arrival in Pyongyang
Check in hotel
Dinner hosted by NS
- Feb, 18 AM Briefing by IFRC delegates
(Wed.) PM Briefing by NS WatSan team
- Feb, 19 AM Sokgyo-ri (2nd phase WSS) , Pyongwon County, S. Pyongan Province
(Thur.) Sinphung-ro (2nd phase WSS), Sukchon county, S. Pyongan Province
Changdong-ri (1st phase WSS, WWCS, Ecosan toilet), Sukchon county, S. Pyongan Province
PM Taesong-ri (2nd phase WSS), Sukchon County, S. Pyongan Province
Komsan-ri (health institution & pilot phase WSS), Sukchon County, S. Pyongan Province
- Feb, 20 AM Keumchon-ri (1st phase WSS, WWCS, Ecosan latrine), Sunchon City, S. Pyongan Province
(Fri.) Tongam-ri (2nd phase WSS), Sunchon City, S. Pyongan Province
PM Paeksong-ri hospital, S. Pyongan Provincial hospital (health institution WSS) in Pyongsong City
- Feb, 21 Reporting/NGO meeting: exchange programme information
(Sat.)
- Feb, 22 Reporting/culture
(Sun.)
- Feb, 23 AM Chimhyang-ri and Soksan-ri (2nd phase WSS), Jongju City, N. Pyongan Province
(Mon.) PM Sinchon-ri (1st phase WSS, WWCS, Ecosan latrine), Wolyang-ri (pilot phase WSS, Ecosan latrine),
Jongju city, N. Pyongan Province
Meeting with Water-quality monitor in Jongju City
Namchang-ri (1st phase WSS), Kusong city, N. Pyongan Province
Overnight in Kusong city, N. Pyongan Province
- Feb, 24 AM Anui-ri & Kwansang-ri (pilot phase WSS), Kwaksan County, N. Pyongan Province
(Tue.) PM Yomju County hospital (health institution WSS), Tongsong-ri (1st phase WSS, WWCS,
Ecosan latrine) in Yomju County, N. Pyongan Province
Overnight in Sinuiju city, N. Pyongan Province
- Feb, 25 AM Eunjong-ri (1st phase WSS, Ecosan latrine), Rohwa-ri (health institution WSS) hospital in
(Wed.) Sonchon County, N. Pyongan Province
PM Posok-ri (1st phase WSS, WWCS, Ecosan latrine), Tongsam-ri (1st phase WSS, Ecosan latrine)
in Unjon County, N. Pyongan Province
Overnight in Anju city, S. Pyongan Province
- Feb, 26 AM Anju City hospital (health institution WSS), Songhak-ri & Namchil-ri (2nd phase WSS), Anju City,
(Thur.) S. Pyongan Province
PM Working discussion with NS
- Feb, 27 AM Working discussion with NS
(Fri.) PM Courtesy call to SG and Vice-Chairman of NS
- Feb, 28 AM Departure
(Sat.)