Social Water and Integrated Management Project

Takhar Province, Afghanistan

Contract No. Food/2007/147-691
Reference: EuropeAid/125953/L/ACT/AF

FINAL EVALUATION

January 2011

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Contents

Abbreviations, Acronyms and Local Terms

ACTED	Agence d'Aide à la Coopération Technique et au Développement
AKF	Agha Khan Foundation
ARBP	Amu River Basin Project
BRAC	Bangladesh Rural Advancement Committee
DAC	Development Assistance Committee
DACAAR	Danish Committee for Aid to Afghan Refugees
DAI	Development Alternatives, Inc.
DAIL	Department of Agriculture, Irrigation and Livestock (at provincial level)
DRR	Disaster Risk Reduction
DRRD	Department of Rural Reconstruction and Development (at provincial level)
DSA	Daily Subsistence Allowance
EC	European Commission
ECD	European Commission Delegation (Kabul)
FAO	Food and Agriculture Organization
GAA	German Agro Action (INGO) = Deutsche Welthungerhilfe (DWHH)
GIS	Geographical Information Systems
GPS	Geographical Positioning System
GTZ	Deutsche Gesellschaft für Technische Zusammenarbeit (German Society for Technical Cooperation)
ha	hectare
hh	household
IDEA-NEW	Incentives Driving Economic Alternatives - North, East, West – Mercy Corps & DAI
IWRM	Integrated Water Resource Management
jerib	area of land (about 0.2 ha)
KRBP	Kunduz River Basin Project
LF	Logical Framework
M&E	Monitoring and Evaluation
MEW	Ministry of Energy and Water
MTE	Mid-Term Evaluation
NGO	Non Governmental Organization
NRM	Natural Resource Management
OECD	Organisation for Economic Co-operation and Development
OVI	Objectively Verifiable Indicator
P-ARBP	Panj-Amu River Basin Project
PMIS	Participatory Management of Irrigation Systems
PRA	Participatory Rural Appraisal
PSC	Project Steering Committee
RBA	River Basin Authority
SBMC	Sub-basin Management Committee
SMART	Specific, Measurable or Monitorable, Achievable and or Attributable, Realistic and Relevant, Timebound (of indicators)
SMILE	Social Management of Integrated Livelihood and Environment (Concern upper catchment project in Northern Takhar) - Concern
SP	(Concern's) Strategic Plan for Afghanistan
SWIM	Social Water and Integrated Management (project) - Concern
SWM	Social Water Management
TA	Technical Assistance (provided by CARDNO Agrisystems for ARBP and Landell Mills Ltd for P-ARBP)
ToR	Terms of Reference
WUA	Water User Association
WUAC	Water User Association Committee
WUG	Water User Group
WUGC	Water User Group Committee
WMD	Water Management Department (MEW)

Project data

Budget Line(s)	BGUE-B2007-21.020100-C8-AIDCO
Grant Contract No	Food/2007/147-691
Implementing agency	Concern Worldwide[1]
Project title	Social Water and Integrated Management (SWIM) project
Project location	Takhar, Afghanistan
Project duration	36 months
Project start date	1 January 2008
Original contract end date	31 December 2009
Project extension (months)	12 months
Project suspension (months)	Nil
Actual contract end date	31st December 2010
Names of Evaluator(s)	Paul D Smith
Evaluation firm/organisation	Private Consultant
Date of Evaluation	November 30th to December 31st 2010
Date of Evaluation report	31st December 2010
Overall project budget[2]	€ 1,320,000
EC funds disbursed:	
Initial payment	1st Tranche €539,199 (received in 2008)
Intermediate payment	2nd Tranche €585,791 (received in 2010)
Expenditure incurred to date	€ 1,051,885 to end of November 2010 €1,283,071 projected to 31st December 2010

Summary of Evaluation

1. Relevance & quality of design	b
2. Efficiency of implementation	c
3. Effectiveness to date	b
4. Visibility	c
5. Impact to date	b
6. Effect on alleviating poverty	b
7. Potential sustainability	b
8. Reporting	c

Key: a = very good
b = good
c = moderate
d = inadequate
e = serious deficiencies (catastrophic)

[1] Originally with DWHH (German Agro-Action) as a partner

[2] Including 5% co-financing

Executive Summary

Relevance and quality of design

The recent decades of conflict in Afghanistan saw a decline in traditional canal maintenance mechanisms. This was partly due to changes in social relationships but was also brought about by deterioration in the economic conditions. Functions that had been taken over by the government were no longer being fulfilled. As a result, many irrigation systems in the north-east of Afghanistan are not functioning at their full potential.

The Social Water and Integrated Management (SWIM) Project was one of two social water management projects being implemented by NGOs under the umbrella of the Amu River Basin Project that aims to improve water management, reduce poverty and develop river basin institutions in the Panj and Kokcha sub-basins. The design follows the same model as previous social water management projects implemented under the Kunduz River Basin Project. Like the other social water management projects, the SWIM project aim to develop local institutions that will lead to improved water management (at this stage, mainly irrigation water), mainly increases in supply, reliability and fairness of distribution. The project has also assisted the new groups by providing financial and technical assistance to improve their canal infrastructure and water management. The project design would contribute to the overall objective of decreased poverty through better food security. Mostly the design was appropriate through among the few stranger suggestions was that the small infrastructure projects might include “community houses or disaster response materials”.

Beneficiaries effectively were preselected as the canals were defined in the Call for Proposals. All irrigators in the command areas would automatically become members of the Water User Groups and Water User Associations (at canal level). Concern has made efforts to include women in the committees of these user groups, partly on the basis that all households use water and partly because many women are actively involved with irrigation. No attempt has been made however to include seasonal herders among the water users.

The logical framework (LF) was revised at the time of the no-cost extension request in September 2009 following advice from the ARBP M&E consultant. The original logical framework did not correspond well with that of ARBP and some of the OVIs in the framework were actually activities (such as number of trainings). However it would have been better to retain the original result that was concerned with changed attitudes and knowledge (as long as appropriate OVIs could have been devised). Even the revised logical framework left a lot to be desired, especially the use of ill-defined “User Satisfaction Indices”, misunderstandings about the nature of the WUGs and WUAs and the feasibility of using parameters such as cropped area and ratio of canal water flow at the intake to the flow at the furthest off-take as a measure of the equitability of water distribution. Monitoring actual irrigation delivery to a sample of farmers would have been a much better OVI.

Efficiency of Implementation

The project has suffered as a result of the insecurity. The manager was originally appointed (five months after the project contract was signed) as the manager of the SMILE (Social Management of Integrated Livelihood and Environment) upper catchment project in Northern Takhar. When it was found impossible because of the deteriorating security to recruit a manger for SWIM, the SMILE manager became the manager of both projects. The SWIM project was originally a partnership between Concern and Deutsche Welthungerhilfe (DWHH) and DHWW were supposed to recruit an expatriate irrigation engineer. The engineer was not appointed until January 2009 and he left in July after only seven months when DWHH withdrew from NE Afghanistan because of security concerns. As the revised budget was not approved until May 2010, he was never replaced. DHWW were also supposed to appoint an agroforester and this did not happen either. As a result, the SMILE manager became not only the manager of both projects but also the technical adviser for both projects also. This has inevitably meant that his inputs have been more thinly spread that would have been desirable.

Support from senior management has been good with frequent visits from senior staff in Kabul and the regional office in Taloqan.

The Monitoring and Evaluation (M&E) system is rather poor, especially in measuring project impact. Some information has not been collected and some has been collected but is not in an easily accessible format (for example attendance figures at WUA and WUG meetings are recorded in narrative reports but not on spreadsheets). Now a new M&E advisor has been appointed at country level, it is clear that Concern are taking this seriously and that the situation will be improved in the second phase of the SWIM project.

Turnover of staff has been around 20%, partly because of security and the remoteness of the area but also because of people finding better paid jobs elsewhere.

The procurement system seems to have been reasonably efficient and has delivered inputs without too much delay. What delays there were, were because of security and occasionally because of poor road conditions.

Of the 100 small infrastructure projects, almost a quarter were still under construction two weeks before the end of the project (when the evaluation took place) and it seemed unlikely they would all be completed by the end of the project[3]. Fortunately a second phase of SWIM is about to start and so this is not a catastrophe.

Despite the adverse conditions, the project's adoption of a participatory approach to planning and decision making has no doubt contributed to the relative success of the project. The value of the community contribution in the form of unskilled labour ranged from 10 to 40% and there was a wide scale use of traditional communal work parties (hasher).

Four staff members (of which two remain) were trained on the use of GIS and seem quite proficient. However, there is a general lack of maps at the WUG level and the consultant saw no evidence of maps of the command areas being used by the WUAs.

Material inputs were mostly of good quality and the staff have rejected some consignments of tools because of their concerns. However the consultant has anxieties about the quality of the gabions being used which are beginning to rust after only four months in some cases. Training in specifications and the use of civil engineering testing laboratories are advocated. Engineering design procedures need to be improved and a sample template has been provided. The Concern Senior Engineer will follow up on this in 2011. Project engineers should not attempt structures that are beyond their technical capabilities and some advice has been given on this.

The establishment of trials to test improved crop varieties have not been methodically implemented. There remains much to be done in phase 2 to improve agricultural production.

Training, especially in conflict resolution has been widely appreciated. However the materials would benefit from being made more contextual (such as picturing Afghan farmers rather than Western office workers).

Co-operation with local government and local community leaders has been excellent. All the government staff the consultant spoke to were very complimentary about the project and about the staff. They had benefited from training provided by the project and felt that they were involved with the monitoring of the project.

Effectiveness

To summarise, 13 WUAs have been formed (Result 1) as described in the proposal and the LF and 71 WUGs have been formed. The WUGs are based on villages and their membership needs to be modified in phase 2 to ensure that all farmers receiving water from the same sources are members of the same WUG. Infrastructure plans (Result 2) were developed. All plans were for infrastructure improvements financed through the project but with but with significant contributions from the community in terms of labour and sometimes, locally available materials such as stone and sand. As yet, WUAs are not developing improvement plans that will be financed by themselves (though they do make repairs themselves). Water management plans have been developed (Result 3) for WUAs, but not for WUGs. The plans are heavily dependent on the project staff. Canal maintenance plans have been developed (Result 4) for WUAs and WUGs but again the plans are very dependent on project staff. Much work needs to be done on the water management plans and canal maintenance plans in phase 2.

It is a tribute to the hard work of the SWIM project staff that they have achieved as much as they have despite the poor security for many parts of the project area for long periods during the project cycle. The project will have contributed significantly to the overall objective of fostering "*poverty alleviation through improved food security*".

Coordination with other projects implemented by agencies other than Concern has been confined mainly to participation in joint meetings though there have been some cross-visits to projects in Badakhshan (AKF), Taloqan and Kunduz. The relationship with ARBP has been weak, especially over the last two years of the project.

Impact prospects

The project has improved crop production through a combination of infrastructure improvement and the better irrigation management brought about by the WUAs and WUGs. Cropped area has increased, wastage of water has been reduced, quantities of water delivered have increased and water is managed more efficiently. Water distribution to farms is more reliable. There are now more orchard crops, more vegetables and more poplar being grown and these changes will have improved nutrition (again not monitored) and

[3] Since leaving Afghanistan, the consultant has been informed that all schemes were completed by December 25th 2010

household income. In some areas, potatoes are now being grown on ridges which are a much more efficient method of irrigation. The structures have reduced flooding of canals and farmland in some areas. Where the SWIM project has constructed improved infrastructure, tree felling to make repairs has declined. Export of food from the area may have increased though this has not been monitored.

The SWIM project has contributed to the ongoing debate about the implementation of the new Water Law and in particular has been among the projects spearheading the formation of Water User Groups and bringing about the institutionalisation of water management in the Lower Panj Sub-Basin.

The SWIM project has improved the financial situation of the beneficiaries though this is not monitored and so cannot be quantified. The project has also decreased the work load by reducing the number of repairs that are necessary (because the infrastructure does not get washed away so easily). Water distribution is now fairer and there are fewer conflicts over water than there used to be (but again these are not monitored).

The sense of community ownership of infrastructure improvements is now better than it was at the beginning of the project.

Inevitably the project has benefited those farmers with the greatest area under irrigation most. However the project has made strenuous efforts to address the needs of marginalised groups even though those who gain the most are large scale farmers. Women have been appointed to WUGCs and WUACs though they do not participate in decision making and do not meet with the men. The deputies of some WUAs are women and these organise meetings with other women, mainly when female project staff are around to facilitate the meeting. The women on the WUGCs and WUACs mediate between the committees and women with problems related to water supply. Women have benefited from training in business, agriculture and horticulture. However landless have not been specifically targeted. However as farms become more productive, even labourers may benefit from more secure employment and from better availability of fodder if they are animal owners.

Government officers believe the burden of resolving conflicts over water has reduced and project staff observe that the relationships of the government to the communities have improved. Local leaders have had the kudos of being closely associated with the infrastructure improvements. Commanders and mullahs are now more supportive of and more closely involved with the project than they were initially. Mirabs are now much more accountable to the community than they were before the project.

Security deterioration has clearly had an effect on the uniformity of impact, those areas that were most peaceful having benefited most.

Given the insecurity issues, visibility has been reasonable though the signage could be improved. Publications that the Visibility section of the proposal stated would be produced have not been. However the project printed 5,000 Water Law pamphlets booklets from its Visibility budget and distributed them to water users. It also produced posters, project leaflets, notebooks for children, wall planners, and wall clocks. A documentary film on the project was produced in the Taloqan TV station and shown over 10 days in 20 minute instalments and there was also an interview on radio with the Head of Water Development Department in Takhar Water Director on the project on local radio.

Sustainability

Fortunately, the EC has agreed to finance a second phase of the SWIM project, albeit at a much reduced level of funding. The consultant discussed the issue of sustainability with all the WUG and WUA committees met. All were optimistic that by the end of the second phase of the SWIM project, the WUAs and WUGs would be in a position to continue unaided by Concern.

Contributions towards the unskilled labour inputs into infrastructure have steadily increased throughout the project. The test will come when the communities must pay for skilled labour and inputs such as cement and reinforcing rod. It would be a great achievement of the SWIM phase 2 staff can lead at least some communities through the whole process of a small infrastructure improvement project without any outside funding whatsoever.

There needs to be more capacity building of district and provincial government staff if the impact of the project is to be sustainable. District and provincial MAIL staff need more training in irrigation management and engineering as well as financial management and institution building.

1. Introduction

The project in the context of the Amu River Basin Project

The Afghan government has made a strategic decision to improve the potential for sustainable management of the country's land and water resources by adopting a river basin approach with an emphasis on enhanced stakeholder participation, particularly the establishment of sub-basin councils and water user associations for managing irrigation resources. As part of this strategy, under the 1382-83 (2003-04) National Development Budget, the EC was asked and agreed to commit funds for an Integrated Water Management Programme in the north east region of Afghanistan called the Kunduz River Basin Management Project (KRBP). Technical Assistance was provided by Landell Mills Ltd., UK. The KRBP focused mainly on the two sub-basins of Kunduz and Taloqan and to a lesser extent the Upper Kunduz sub-basin. This project terminated in May 2009 (1388).

In the EC's 1383-84 (2004-05) Biannual Food Security Programme for Afghanistan, it was proposed to extend the scope of the KRBP to the watersheds of Kokcha and Upper Panj sub-basins, which are mainly located in Badakhshan Province under a separate contract. The project's name was the Amu River Basin Management Project (ARBP). ARBP began in August 2006 and is due to end in August 2011. It is implemented by the Government of Afghanistan with technical assistance input from Cardno Agrisystems Ltd. UK. After the start of ARBP, the flood plains of northern Takhar Province (Darqat, Yangi Qala and Khwaja Bauddin districts) were included also in ARBP's coverage area, as this region consists of the downstream part of the Lower Panj Sub-basin.

The project aims to reduce poverty and enhance livelihoods, by promoting more efficient use and equitable distribution of water and the sustainable management of rainfed, forest and range areas. The design of the project takes into account the country's new water policy and the water law approved on 26th April 2009.

ARBP has five components:

- infrastructure improvement and rehabilitation (mainly canals);
- social water management (improved community based management of the water in the rehabilitated canals);
- capacity building (of government counterparts through training);
- development of a river basin management plan;
- upper catchment management.

In 2008, under the water management component of the Agriculture Support Programme, the EC allocated an additional €25 million to support the MEW's Integrated Water Resource Management (IWRM) approach throughout the Panj-Amu River Basin in the north-eastern region of Afghanistan, particularly aiming at consolidating ongoing institutional reform activities throughout the entire Panj-Amu River Basin (Figure 1).

After the Panj-Amu River Basin Project (P-ARBP) began on 4 June 2009, ARBP, along with its NGO-managed sub-projects, was brought under the co-ordinating umbrella of P-ARBP. This was to ensure a better level of coordination and to harmonise the implementation of activities between the different stakeholders.

Scope of Social Water and Integrated Management project

The Social Water and Integrated Management (SWIM) project is one of two social water management projects under the umbrella of the Amu River Basin Project (ARBP). ARBP addresses a wide range of river basin development issues in the Upper Panj, Lower Panj and Kokcha sub-basins, including government capacity building, the establishment of sub-basin councils, infrastructure rehabilitation, soil and water conservation, reforestation, range management – and social water management. The project area for ARBP is shown in Figure 1 and on which the location of the SWIM project area is also shown.

"Social water management" (SWM) is primarily aimed at improving the management (efficiency of use, equitable distribution and a self-sustaining and coherent canal maintenance system) of irrigation water. The government, with extensive advice from international experts, has decided that Water User Associations will play a pivotal role in achieving improved irrigation management and this has been enshrined in the new Water Law. The SWM projects were to also support ARBP by liaising with communities to finalise large scale infrastructure plans and to implement small scale canal improvements themselves together with the water user groups they established.

In all, the rehabilitation of 30 canals was envisaged in the three sub-basins. After short-listing from a long list of possibilities, the rehabilitation plans for all 30 canals (17 canals in Badakhshan and 13 canals in Takhar) were finalized in consultation with mirabs based on technical requirements. These rehabilitation plans were

forwarded to the Social Water Management Team to discuss with communities, seeking their comments and suggestions.

The Social Water and Integrated Management (SWIM) project started initially in partnership with German Agro Action (GAA) but in June 2009, GAA pulled out of NE Afghanistan for security reasons. For this and other reasons a budget realignment and no-cost extension was requested and approved in September 2009. A further budget modification was requested and approved in May 2010.

The SWIM project has worked in 13 canals in North Takhar, situated in Yangi Qala, Darqad, Khojabuddin and Rustaq districts. All the canals are within the Rustaq (P1) Watershed Block. Thirteen (one for each canal) Water User Associations have been established and 71 Water User Groups at sub-canal level have been formed: 11 in Darqad, 22 in Khojabaudin, 30 in Yangi Qala and 8 in Rustaq district. The estimated number of direct beneficiaries is 74,281 women and men (according to the 2008 baseline survey).

In addition to institution establishment, capacity building and management training and small scale infrastructure improvement, SWIM staff have also trained farmers in improved cropping patterns.

Evaluation methodology and limitations

The evaluation included the following components:

- an examination of project documents such as the proposal, progress reports, case studies, monitoring and evaluation reports, translations of training materials, infrastructure design files, translations of WUA by-laws, water management plans and canal maintenance plans[4];
- field visits to inspect small infrastructure projects;
- meetings with Water User Associations and Water User Groups;
- interviews with farmers;
- meetings with district governors;
- interviews and meetings with project staff;
- meetings with ARBP technical assistance team include the Team Leader and engineers;
- meeting with P-ARBP Team Leader.

In order to familiarise himself with the correct procedures regarding the registration of Water User Associations, the consultant attended part of a workshop in Kabul on Water User Association registration.

Before leaving Kabul the consultant held a debriefing meeting with the Country Director and Senior Programmes Advisor.

There were several limitations in carrying out the evaluation. Firstly, there was the timing. After arriving too late for an immediate onward flight to Faizabad, the consultant was further delayed for a further five days after successive cancellations of UNHAS flights to Faizabad. Only two of these cancellations were because of the weather.

Another major limitation was due to security restrictions on travel within the project area. This meant firstly that we had to be back in Rustaq by 4 pm which severely restricted time spent with beneficiaries, *etc.* and secondly there are large areas of the project that are just not safe to visit. The consultant was nevertheless able to visit parts of Yangi Qala and Khawaja Baudin districts. It was impossible to visit Darqad district at all.

Being a male, the consultant was unable to interview female beneficiaries. It is recommended that the inclusion of a female consultant (possibly from the region) be considered for future evaluations of projects that are attempting to ensure the inclusion of women.

Unfortunately Thursday 16th December was a holiday (Day of Asura) and this meant that a planned visit to meet with WUAs had to be cancelled (instead small scale infrastructure projects were visited).

Finally, as it was near the end of the project, there were some delays in obtaining some information such as translations of WUA plans and bylaws.

[4] a list of documents consulted may be seen in Appendix 2

Figure 1. Panj and Kokcha sub-basins showing location of SWIM activities

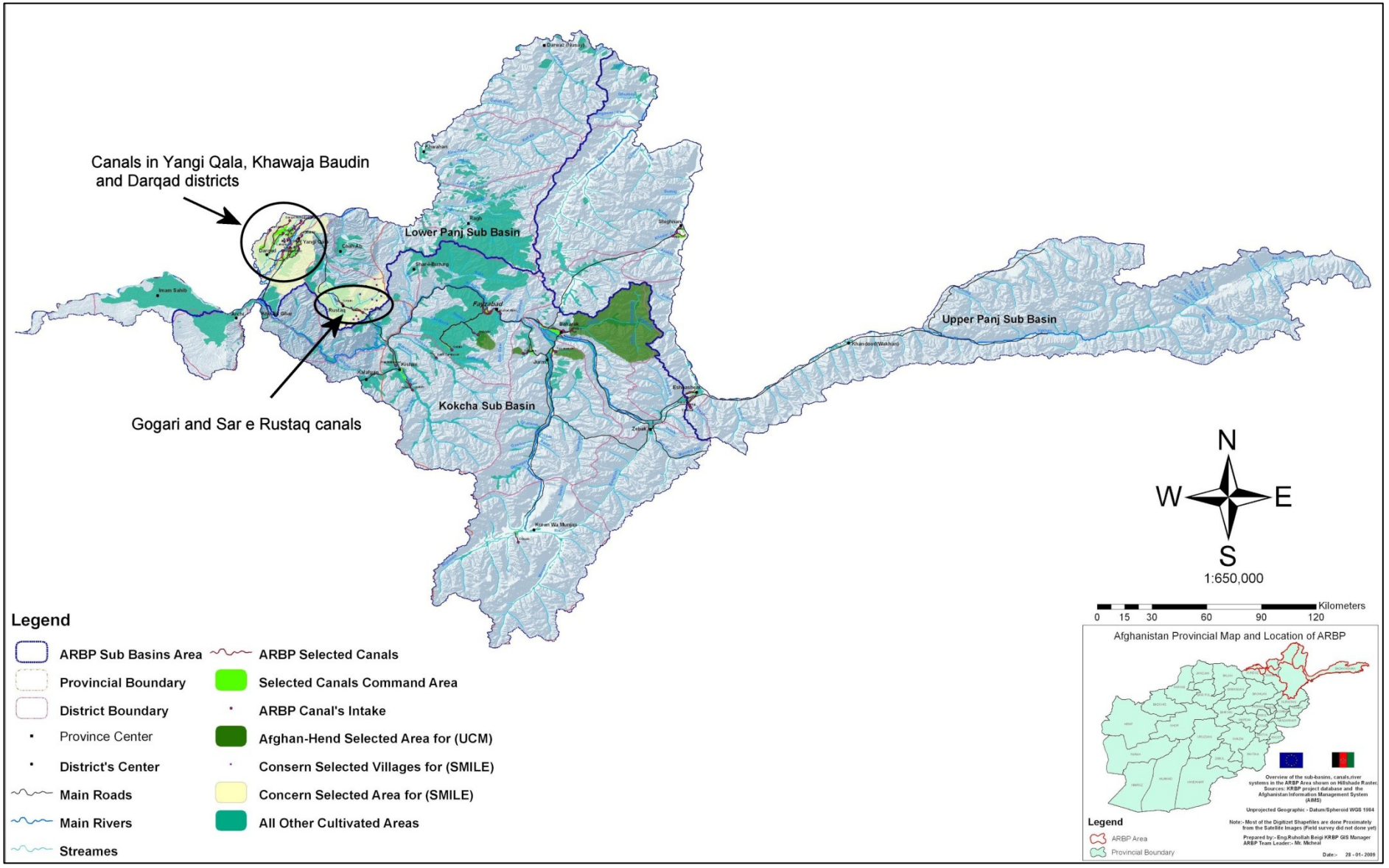


Figure 2. Detail of Figure 1 showing SWIM canals in Yangi Qala, Khawaja Baudin and Darqad

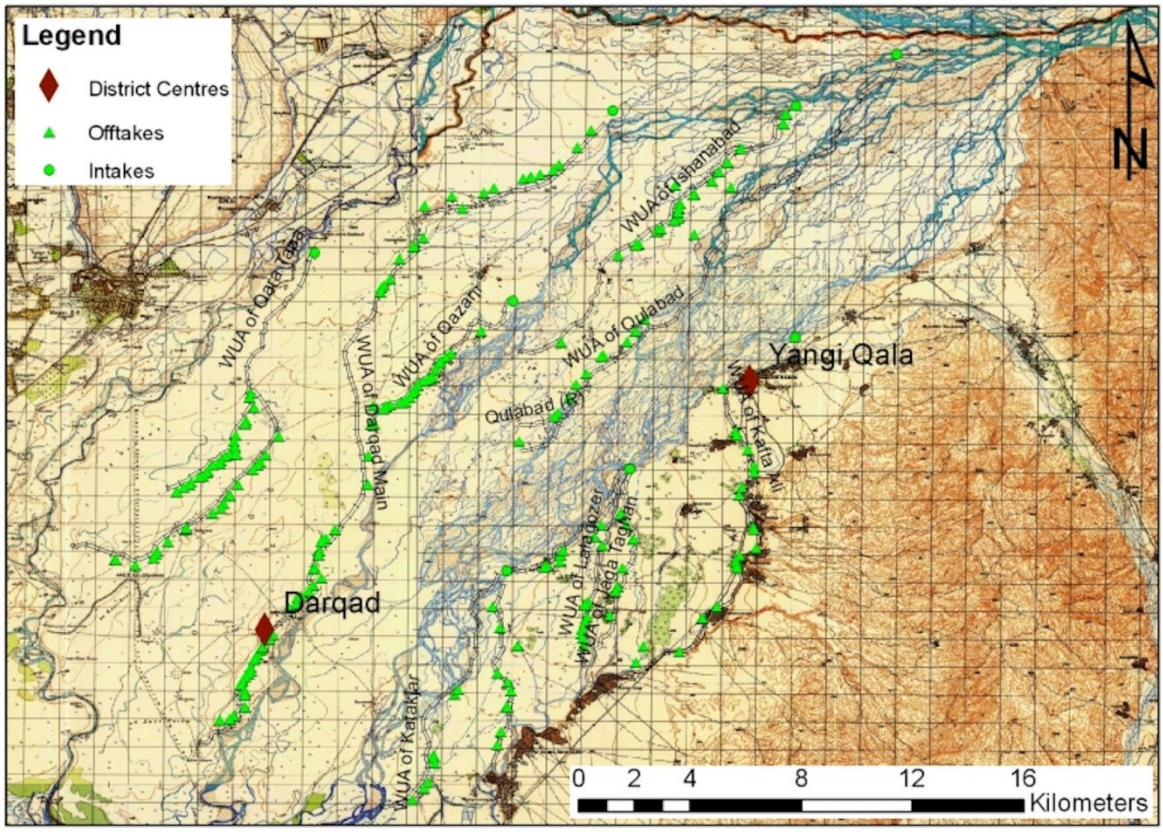


Figure 3. SWIM canals in Yangi Qala, Khawaja Baudin and Darqad without topography

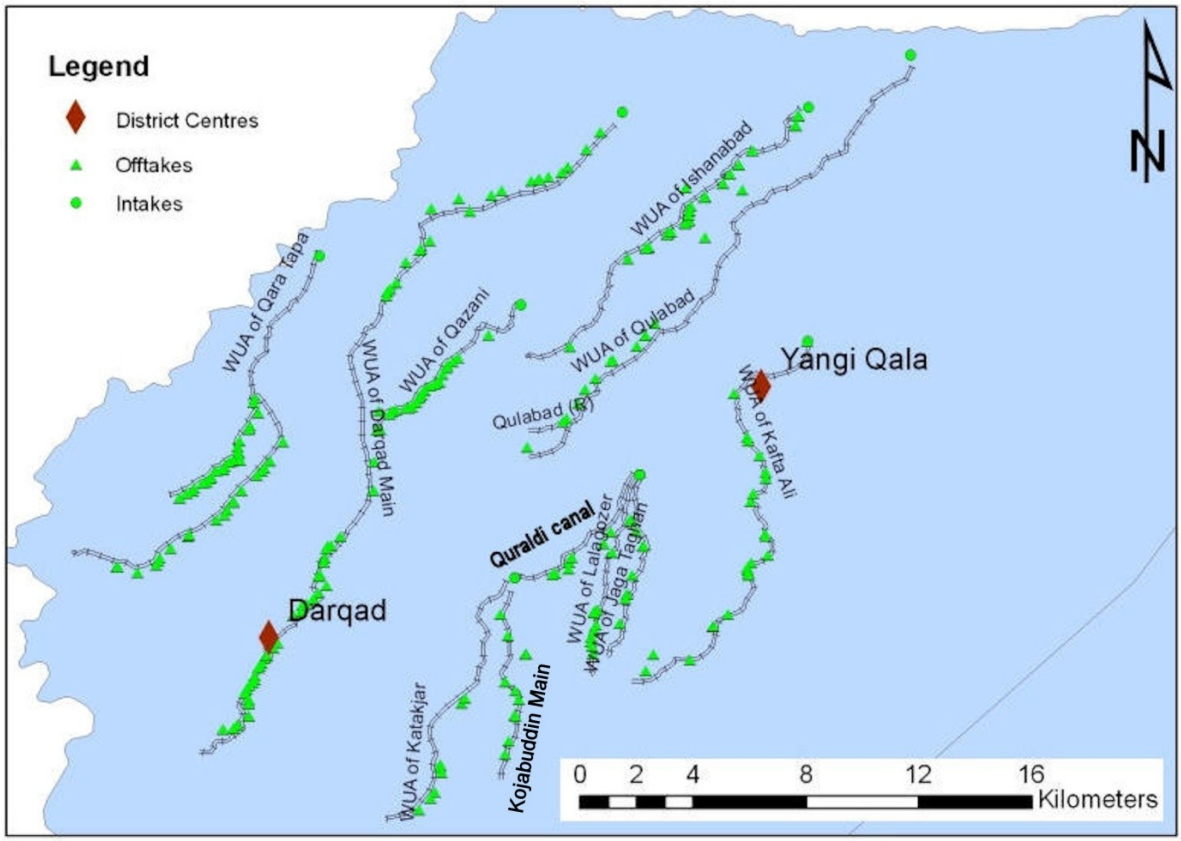


Figure 4. Detail of Figure 1 showing Sar-e-Rustaq and Gogari canals

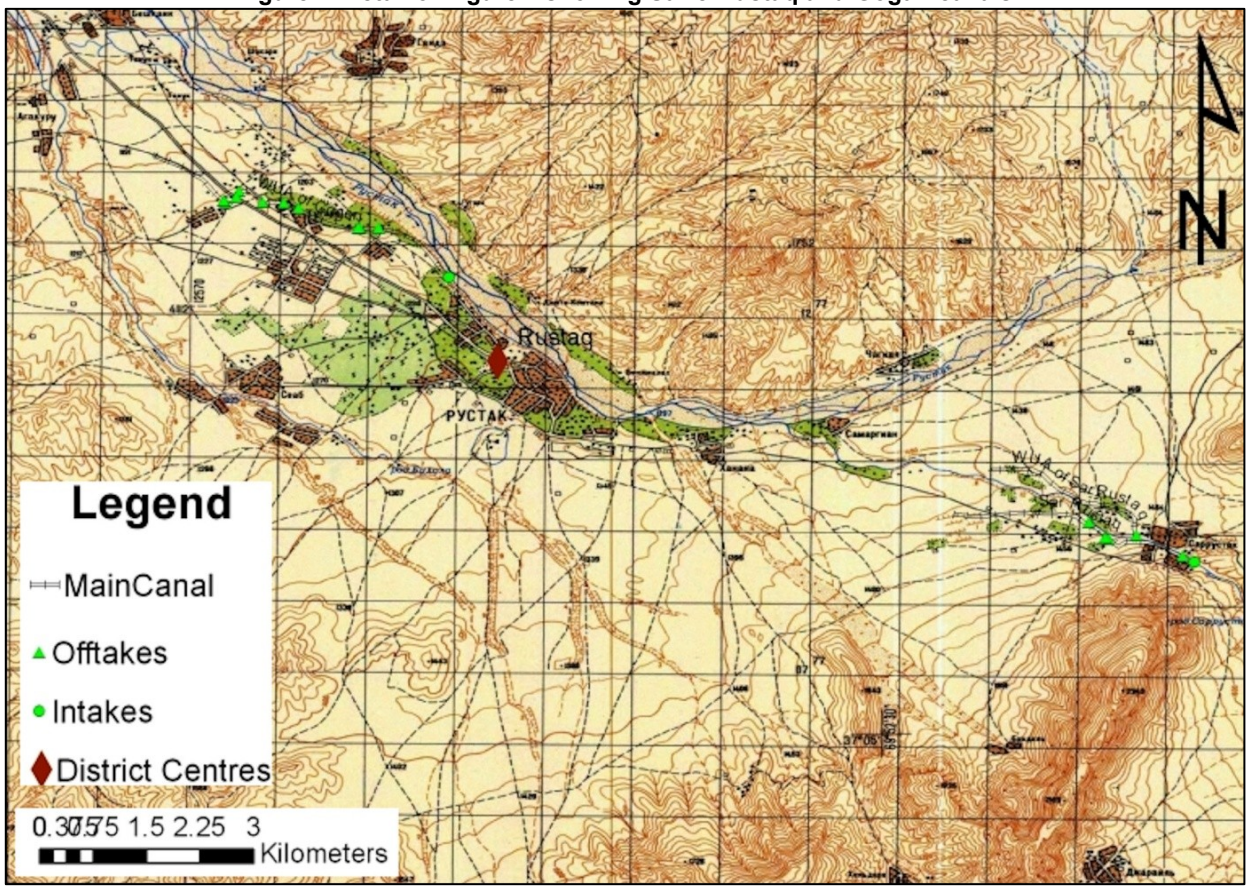
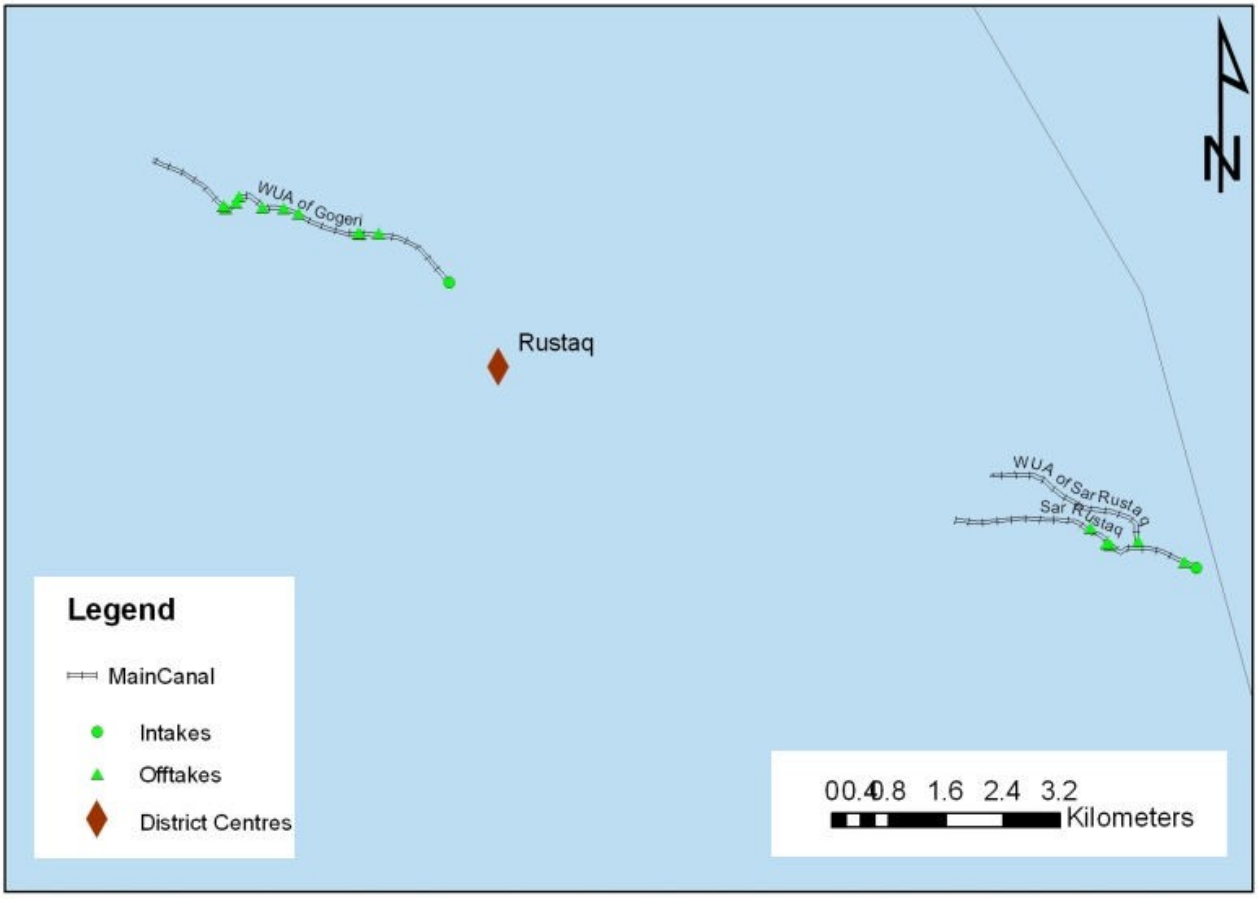


Figure 5. Sar-e-Rustaq and Gogari canals without topography



2. Progress against logical framework indicators

Introduction

There is still some confusion about the status of the overall logical framework for ARBP. Since the latter half of 2008, ARBP has used a "nested LF" with six components that was developed in the ARBP M&E Plan of December 2007 (referred to hereinafter as the "nested M&E Plan LF") and used in ARBP progress reports since the latter half of 2008. However the "legal" LF recognised by the ECD is the one included in the ARBP Technical Proposal. This was later modified in the Inception Report and then by successive Team Leaders in their Progress Reports) though none of the different versions was formally submitted to the EC. The evolution and status of the various LF versions were discussed in the ARBP mid-term evaluation report[5]. The ARBP nested M&E Plan LF for the social water management component is given in Appendix 5.

The existence of different LFs for ARBP and the sub-projects being implemented by NGOs was making reporting (by NGOs, ARBP and the EC) difficult. Therefore, workshops were held in March and April 2008 at the ECD in order to develop common objectives, results and indicators for Social Water Management (and also for Upper Catchments Rehabilitation). The participating NGOs were encouraged to report to ARBP against these common objectives, results and indicators.

At the time of the request for a no-cost extension in September 2009, the SWIM LF was modified in the light of project experience and to conform more closely to the objective and indicators agreed at the March and April 2008 workshops. The revised LF is reproduced in Appendix 6. The main difference with the original is the inclusion of a specific reference to the development of canal maintenance plans and the omission of the Expected Result that *"stakeholders have gained knowledge and attitudes that allow them to implement best practices in efficient water management".* This seems rather a pity and it would have been better to leave the result regarding changed attitudes in the LF.

This chapter will report on progress against the modified LF for SWIM.

Specific objective

Indicators

The (revised) SWIM specific objective is:

> "*water users improve the social and technical management of selected irrigation schemes, including representation at River (sub) Basin level*".

The indicators for the specific objective are:

- *User Satisfaction Indices (sample survey of water users), measured at baseline, mid-term and final, of adequate, reliable and equitable availability of water;*
- *Sub-basin council representation.*

Improved water supply

The first indicator that the specific objective has been met is a "User Satisfaction Index", a function of adequacy, reliability and equitability of water supply. In practical terms, this means:

- *Was there sufficient water delivered to the farm in total over the irrigation season?*
- *Was the water delivered to each farm regularly and at the expected time?*
- *Was there a fairer distribution of irrigation water than before the project?*

It was pointed out to the consultant that some farmers can plant a second crop if there is sufficient water and so it is suggested that

- *the number of farmers planting two or more crops a year should be carefully monitored.*
- *A more objective assessment of whether there was more equitable distribution of water could be obtained by monitoring a sample of farmers (say 130 (10 in each canal scheme)) spread out between upstream and downstream farms and keeping a log of a) the date on which the farmer obtained water and b) the duration (minutes or hours) for which water was available on each occasion. It is recommended that such a system is included in SWIM 2.*

During the visit, about 20 farmers were interviewed in different locations. All said that water quantity had increased as had reliability. During interviews with WUGs and WUAs the consultant was told that all farmers were receiving water for the same amount of time no matter what part of the canal they obtained water from.

[5] **De Patoul, C.; Smith, P.D. ; Ibrahim Mohamed.** June 2010. *Mid-term evaluation of Amu River Basin project.* AGRER Consortium

However this does not correspond with information during interviews with individual farmers who indicated that there were still large differences between the duration and frequency of water obtained by upstream farmers and those living near the tail-waters. Even though there was more water and overall frequency of irrigation had increased, differences between upstream and downstream frequencies were maintained (for example, in Gogari WUA) which implies that in at least some cases, upstream farmers were not prepared to see water supply increased to downstream farmers more than it was to them.

It should be noted that the third aspect of the User Satisfaction Index is similar to one of the indicators for Result 3 (Water Management Plans developed), the ratio of tail to head water flow.

- ❖ *Duplication of similar indicators in different parts of the logical framework should be avoided.*

No initial survey was carried to measure the starting point of the parameters in the User Satisfaction Index so a survey needs to be retrospective. An "endline" survey planned with the Senior Programmes Advisor during the visit will include questions that attempt to develop a User Satisfaction Index.

Sub-basin council representation

The second indicator for the specific objective is "Sub-basin council representation". There is, as yet, no sub-basin council. Until one is formed, the WUAs ought to have been represented on a Lower Panj Sub-Basin Working Group. However, this has not yet been organised by ARBP (or P-ARBP) or the Water Management Departments in either Taloqan or Faizabad. The government (Water Management Department at provincial level) still seems not to take the sub-basins seriously and still think in terms of provincial boundaries.

Even if the Working Group had been constituted, the indicator in the LF is not "SMART"[6]. Better OVIs would be:

- *the average number of participants from SWIM WUAs at sub-basin working groups or councils compared to the number of participants invited*
- *the number of delegates that put forward a motion or suggestion to the working group?*

Some indication of the degree of participation by WUA members in river basin activities can be seen from their enthusiastic participation in the following committees and meetings:

- *District Coordination meetings:* regular monthly meeting that are intended as a platform for WUAs to share their concerns, learning and seek solutions to their problems together with project staff and local government authority representatives;
- *P-ARBP Coordination meetings*: as and when these meetings are organized, WUA members participate in these meetings and contribute to the discussions;
- *ARBP Coordination Meetings*: these used to be regular these stopped towards the end of 2008 and when they were convened (before P-ARBP), the WUA members participated in the discussions:
- *P-ARBP Steering Committee Meetings:* organized in Kunduz (in 2008), Kabul or Taloqan and at each meeting, WUA members participated;
- *Thematic meetings:* some meetings were organized by EC / TA on issues such as Water Law, WUA registration processes and were well attended by WUA members;
- *Project meetings:* organised as and when required by SWIM to discuss with WUA members their progress and address problems.

Expected Results

Expected Result 1: Establishment of Water Management Institutions

Indicators

The first Expected Result is:

> *Improved water management institutions at the local and sub-basin level.*

The progress in achieving the SWIM was to be measured by the following indicators:

- *the ratio of number of members of registered WUG / WUA with bylaws to total number water users;*
- *a User Satisfaction Index (sample survey of water users) for WUG / WUA based on, for example:*
  - *regularity of meetings;*
  - *reports and ability to verify reports from the operators (mirabs);*
  - *financial arrangement;*
- *the number of actions agreed in WUA meetings and successfully implemented.*

Progress

Thirteen Water User Associations have been established on the main thirteen canals as summarized in Appendix 8. In addition, 71 Water User Groups have been established (Appendix 9). There has been a wide

[6] Specific, Measurable (or Monitorable), Achievable (or Attributable), Realistic (or Relevant) and Timebound

variation in English spellings of canal and village names (a selection is shown in Appendix 8) which can be very confusing.

- *It is recommended that in SWIM 2, a standard list of English transliterations of Dari spellings is used in all project reports. The transliteration should be based on the Dari spelling not on what the name sounds like to a non-Dari speaker.*

WUGs have been based on villages and this drew some criticism during the mid-term evaluation of ARBP as it was argued that WUGs should be based on secondary canals or other hydrological considerations. However after visiting the area, it was observed that each village is served by more than one off-take and so WUGs correspond approximately to a group of canal off-takes. However in some instances, farmers in one village may obtain water from a secondary canal that mainly serves a different village and so are not members of the WUG for the canal from which he receives water and which governs his irrigation frequency.

- *It is recommended that during SWIM 2, membership of WUGs are adjusted so that all farmers receiving water from a group of off-takes are members of the relevant WUG even if they are from a different village to the one on which the WUG was originally based.*

WUG committees consist of 3 or 4 members selected by all the farmers at an initial general meeting. There is a general meeting of all the members between 6 and 15 times a year. Typically, general meetings are attended by 50% of members. WUG committees meet monthly. In order to improve the transparency and management of the WUGs, it is recommended that

- *SWIM staff should conduct a survey and register all water users prior to next election of the WUG Management Boards.*

WUA committees have between 8 and 18 members who are delegates from the WUG committees. The consultant was told in one group that elections for the committee would be held every five years. Such a period between elections is too long. The mechanism for selecting delegates from WUGs to be members of WUACs need to be refined in some cases and it is recommended that:

- *the number of representatives sent to the WUA board should be defined by the quantity of water taken by the secondary canal or area of land irrigated.*

As yet the WUAs do not have bank accounts even though all 71 WUGs have decided that in the future, they pay fees to the WUAC.

- *As WUAs become stronger during SWIM 2, they should be encouraged to open bank accounts.*

Mirabs are mostly still appointed by the village *shuras* and are re-elected each year though in some cases the WUGC nominates two or three people to the WUAC and the WUAC decides who will be the *mirab*.

- *Eventually, all the mirabs should become employees of the WUACs, which should lay down selection criteria, and mirabs should be paid directly by the WUAs.*

WUG and WUA Membership, Registration Bylaws

Membership. The first indicator misunderstands the nature of WUAs and WUAs as all irrigators (arguably all households, as every household is a water user) in the command area are automatically members of the WUG. The endline survey (Table 5, Appendix 13) indicated that there was a total of 9,214 households in the communities covered by the project and of these, 6,052 (66%), all of the households that used water for agriculture, were paying fees for the mirab. At this stage, it is not realistic to expect households that do not farm, to pay fees for their water.

Although they are specifically mentioned in the Water Law, there are no seasonal herders members in the WUGs or WUAs.

- *It is recommended that in SWIM 2, the possibility of including herders in WUG and WUA membership is investigated.*

It has been noted that in project reports, there is confusion between the WUGs (all farmers in the command area) and the *WUG committees*. Similarly, the WUAs are not the delegates sent by the WUGs to participate in a *WUA committee or board*. The WUA members are all the farmers in the command area of the canal. These confusions are reflected in the bylaws of the WUAs (Appendix 7).

- *It is strongly recommended that care be taken in project reports and in WUG and WUA bylaws to distinguish between WUGs, WUAs and their committees or boards.*

Registration. The registration of WUGs and WUAs cannot be part of an OVI as the mechanism for registering WUAs and WUGs is still being worked out. In fact there was a meeting in Kabul (19th December) on the procedure for registration during the evaluation visit.

Bylaws. Bylaws have been developed only for WUAs as they will be registered with the government. The translation of an example of WUA bylaws is given in Appendix 7. For WUGCs there are only MoUs or agreements.

❖ *It is recommended that in SWIM 2, the project assists the WUGs to develop their own constitution or rules. They do not need to be as complex as the WUA bylaws.*

Other measures of group participation

Additional assessments of the degree of community participation in WUGs and WUAs would be useful. Some possible proxies include:

- *number of meetings of WUGs at which all members (farmers in command area) were present, the attendance and the number of farmers in the command area;*
- *attendance of farmers at initial meetings to elect officers of WUG (and number of farmers in the WUG command area);*
- *attendance records of WUG committees compared with number on committee;*
- *number of people on WUA committees and attendance records with dates;*
- *number of WUGs and WUAs with women on their committees.*

Although attendance at meetings is recorded in narrative by the project, it has not been incorporated into the M&E system so it was impossible for the consultant to assess community participation based on meeting attendance.

❖ *It is recommended that attendance at committee meetings of WUAs and (possibly a sample of) general and committee meetings of WUGs is recorded in M&E spreadsheets to monitor changes in attendance levels.*

User Satisfaction Index

At the time of the evaluation, the User Satisfaction Index for improved institutions had not been determined. In any case, the User Satisfaction Index (USI) as defined in the LF is too vague and inappropriate.

Regularity of meetings. The first component of the USI could be determined by asking farmers if they were satisfied with the frequency of general meetings of the WUGs. It was reported in the endline survey ( ) that WUGs meet 3 to 6 times a year and WUAs meet 6 to 12 times a year. WUG meetings for all the farmers are typically attended by around 52% of the farmers (the same proportion that attend *hashar* events). The survey reported that all people interviewed thought there should be more meetings.

Ability to verify reports from the mirabs. With regard to the second component, decisions made by the WUG committee are passed on by word of mouth (many of the beneficiaries are illiterate and are so are unable "to verify reports").

Financial arrangements. With regard to the third component, fees are still being collected by the *mirab* in the form of grain. There has been no change to the amount being paid to mirabs so a question about satisfaction with "financial arrangements" is unlikely to obtain meaningful answers.

All farmers pay grain for the mirab[7] (generally 7 ser per jerib (about 49 kg)) so the percentage of farmers who pay fees could not be an indicator. Similarly participation in *hashar* could not be an indicator as there are such strong social pressures to turn up for such voluntary work (or they would be labelled as "*lat*" – a lazy scoundrel). Some WUGs assist in the collection of fees by making lists of farmers for the mirab and going to farmers to remind them to pay and this could be considered an indicator of group maturity. Some WUGs also collect money for materials for canal maintenance so the number of WUGs collecting money could be used as an indicator. In some groups, only farmers who own more than 20 jeribs pay for repair materials while in other communities, all land-owners and all share-croppers pay.

More realistic indicators of the user satisfaction with "financial arrangements" might be:

- *the number of WUGs which assist the mirab in the collection of fees (grain);*
- *the number of WUGs that collect money for materials for canal maintenance;*
- *the number of WUAs that have organised canal level repairs through hashar and collection of money through WUGs.*

It is reported in the endline survey (Table 5, Appendix 13) that all WUAs and WUGs had collected money for canal repairs so maybe the amount per capita would be a better indicator than the number of groups that had collected money for repairs.

It should be noted that some WUG committee members and farmers reported to the consultant that there has been a reduction in the amount of money being collected for canal maintenance by the mirab (because of the improved infrastructure).

Actions agreed and implemented

The endline survey (Table 6, Appendix 13) reports that the 71 WUGs took 299 decisions and the 13 WUAs took 298 decisions with a total cost of Afs 2.43 million. These decisions refer only to infrastructure repairs. The original intention was to record all decisions, not just ones that refer to infrastructure.

[7] the money is mainly to pay the *mirab* plus the *kok bashi* and the *chak bashi* but also for some small repairs

❖ *The number of actions agreed in WUA meetings and successfully implemented are not recorded by the project M&E system. This should be rectified in phase 2.*

Expected Result 2: Infrastructure improvement plans

Indicators

The second result is that "*Physical water management infrastructure improvement plans [are] proposed and adapted to needs of water users*". The indicator is that the "*Stakeholder's written approval of adapted infrastructure plans*" exists. This relates to Concerns Strategic Plan's "Action 4" on involving beneficiaries in decision making processes. It refers not only to larger structures built with direct support from the ARBP TA but also the smaller structures constructed by SWIM.

Canal selection by ARBP

The list of possible canals for rehabilitation was discussed at the start up of ARBP between government officers, community leaders and ARBP staff. A final list was drawn based on logistical and economic considerations. Sites were visited and needs discussed with the community leaders, especially the *mirabs.* if necessary plans were modified in the light of comments from beneficiaries though there seems to have been some pressures on WUAs to approve plans prematurely. SWIM helped in negotiations with ARBP to amend designs in accordance with community opinion.

Canal selection in the SWIM project and approval by communities

Within the SWIM project, the procedure for identification of sites for small infrastructure projects involves the community closely. Participatory design workshops with WUA committee members are used to ensure the community views are taken into account. Needs are listed and then it is decided what is possible after which the site is visited to discuss designs. The management procedures are such that no structure could be implemented without a signed letter from the community saying they were satisfied with the proposed designs and the proposed budget with an agreement on the community contribution to the project. Thus it would be true to say that the OVI has been met because:

"*Stakeholder's written approval of adapted infrastructure plans*" exists.

Scope of infrastructure work

It should be pointed out that the proposal states that the project will have an "infrastructure component to build small structures along canals". There is no mention of large structures to lead water across large river beds as have been constructed in Rustaq. This will be discussed further in Chapter 3.

Progress

The actual infrastructure improvements implemented under the project are summarised in Appendix 8. Of the 100 structures almost a quarter were still under construction two weeks before the end of the project (when the evaluation took place). The consultant was sceptical that all of these would be completed by the end of the project[8].

Phase 2

❖ *By the end of SWIM 2, WUAs should develop improvement plans that are self-financed rather than dependent on donor support*.

Terminology

The data provided to the consultant contained some different terms that referred to the same thing such as retaining walls and protection walls, and "scape" and drainage.

❖ *It is recommended that in monitoring files, the same name is always used for the same kind of construction in order to facilitate reporting of numbers.*

Expected Result 3: Water management plans

Indicators

The third Expected Result is that

- *water use management plans [are] adopted and implemented.*

The OVIs are:

- *Water management plans codified, monitored and updated by water users;*
- *Ratio of tail to head water flow in l/ha;*
- *Cropped area in tail in each season.*

[8] Since leaving Afghanistan, while finalising the report, the consultant was informed that all infrastructure projects had been completed.

Progress

So far, only WUAs have developed water management plans with the assistance of SWIM staff. An example in the form of a computer spreadsheet developed by project staff is shown in Appendix 10. The spreadsheet was based on minutes of meetings and groups discussions that were facilitated by the project team that were written onto flip charts. Only a few of the management plans have been computerised in this way. This was the first time the farmers had attempted to put down on paper what had always been communicated orally. The results of the discussions were put into spreadsheet format so that the plans are more understandable for outsiders and project staff. At the moment the plan shown in Appendix 10 is fairly rudimentary and there is still a long way to go in refining the plans (and this is planned in SWIM2) so that they are useable plans that enable WUGs and WUAs to use them as working documents. For example, the plan indicates villages receive water for the same duration regardless of their size and there is no variation in frequency according to the time of year as one would expect.

The plans should address the question of how water shortages will be managed. An economic analysis of different water management scenarios in Afghanistan (Balkh River Basin) is discussed by Torell and Ward (2010)[9] and project advisors should familiarise themselves with this paper.

- *In SWIM 2, the WUA water management plans should be enhanced to include a narrative section listing all mirabs, kok bashi and chak bashi in the command area and their area of responsibility. The plans should also include contingency plans in the event of low water availability or a breach in the canal. The plans should take into account the time that canals may be closed for maintenance. To facilitate this part of the plan, each off-take should be numbered or named and the numbering or naming system communicated clearly to beneficiaries.*
- *A map of each canal command area should be prepared at a scale of 1:5,000.*

In one interview with a WUG the consultant was told that water allocation to farmers was decided by the WUG and this was communicated to the *mirab.*

- *It is recommended that in SWIM 2, water management plans should be developed for the WUGs as well as being refined for WUAs. They should indicate the schedule for distribution of water to farmers taking water from a given off-take. Ideally there should be a schedule by date. Farmers should know exactly when they can expect water. The plans may need to be modified in the light of flooding, breakages and maintenance work. This level of planning is necessary only for WUGs, not WUAs.*
- *The final level of management is how individual farmers use water on their farms. The agriculturalists should help farmers to develop their own water management plan, if necessary by advising on adopting a different crop with lower water demand or higher value.*

Cropping systems

Crop management is an essential part of improved water management. The System of Rice Intensification (SRI) has been proposed for downstream farmers by project staff but no training in the method has yet been provided. Farmers frequently complained about the lack of access to improved varieties (one rice variety from Iran was mentioned).

- *Some farmers suggested that it could be possible to grow improved varieties (of rice) locally and this should be given serious consideration during phase 2. Alternatively the possibility of the WUA acting as a cooperative for purchase of inputs such as seed should be pursued.*

The proposal envisages a crop inventory, a water resource assessment and GIS mapping of canals and other water resources to enable the development of management plans. The GIS mapping was not done until the EC desk officer visited the project and subsequently asked staff to map the canals. The baseline survey includes a list of crops grown in spring, summer and autumn for the whole project but there is no information on the percentage of farmers growing each crop or how many farmers are double cropping (this could be a useful indication of quantity of water). The proposal also (under visibility) states that there will be:

- a report on traditional management of irrigation schemes in the Rustaq watershed block (summarising the results of a study of traditional arrangements and water needs at community level);
- a report on how to incorporate traditional irrigation management in sustainable irrigation schemes;
- a manual on efficient irrigated crop production;
- a framework for community based sustainable irrigation management.

It appears that none of these reports were produced, even if the background studies were done.

Ratio of tail to head water flow

The second OVI, "*the ratio of tail end to head water flow*", is intended to provide information about how fair the distribution is in the canal system. In other words: are farmers nearest the intake taking more than a fair

[9] **Torell, G.L.; Ward, F.A.** 2010. *Improved water institutions for food security and rural livelihoods in Afghanistan's Balkh River Basin.* Water Resources Development, **26** (4), pp 613 - 637

share of the available water. An attempt was made to estimate tail and head water flow during the endline survey. It found (Table 7, Appendix 13) that on average the flow at the farthest off-take was 7% of the flow at the intake and 25% of the flow at the first off-take. The farthest off-take was on average 13 km from the intake. It is not known how many of the off-takes were open simultaneously at the time of the survey. This would obviously affect the result. Also, as very little irrigation is carried out during December, the survey is of limited value. However, the data show a rapid decline in flow rate downstream and as there is very little irrigation in December, these losses are possibly due to seepage. If the width and depth of water had been recorded, the seepage rate could have been calculated.

- ❖ *The reasons for the large differences between upstream flow and downstream flow in December when there is little irrigation should be investigated.*
- ❖ *It is recommended that areas that are waterlogged and areas that are salt affected as a result of high water tables are mapped and monitored.*

A better measure of changes in equity of distribution would be obtained using the recommendation on page 15 to monitor frequency and duration of irrigations for a sample of upstream and downstream farmers.

Cropped area in tail in each season

Again, this is not a useful OVI since it is not compared with anything. As stated above, a better method would be to monitor frequency and duration of irrigations for a sample of upstream and downstream farmers and the area under irrigation.

Expected Result 4: Maintenance plans

Indicators

The fourth expected result is that "*irrigation infrastructure maintenance plans [are] adopted and implemented by water users*". The indicators are:

- *that checklists and schedules for regular and periodic maintenance [are] in place and implemented;*
- *the proportion of reported damage repaired within agreed time.*

Progress with development of maintenance plans

The consultant was told repeatedly during the visit that there were maintenance plans in existence though none were seen in the WUAs and WUGs visited. A sample of a WUA and a sample of a WUG maintenance plan in the form of an Excel spreadsheet were provided by project staff to the consultant and these are reproduced Appendix 11 and Appendix 12. As can be seen, there is a lot of room for improvement of the plans. The endline survey (Appendix 13) reports that 70 of the 71 WUGs have maintenance check lists.

- ❖ *The plans should clearly include a rota showing which parts of the primary and secondary canals are to be cleaned and when based on experience of which sections silt up most readily.*
- ❖ *A method should be devised so that WUGs and WUAs can produce their own maintenance plans without depending on project staff to produce a computer spreadsheet.*

Repairs carried out in specified time

There were only vague answers when asked about the proportion of reported damage that was repaired within the agreed time. It seemed there was no agreed time limit and there were no records of what repairs were undertaken and when they were undertaken. The plans should include a narrative section in which this is clearly stated. It is difficult to know if the OVI relating to the proportion of repairs carried out in the agreed time was met or not.

According to the endline survey (Appendix 13), there were 77 reports of damage to canals during 2010 and all these breakages were repaired using *hashar* during the irrigation season.

3. Project evaluation against Organisation for Economic Co-operation & Development criteria

Relevance

Project design

Problem the project addresses

The recent decades of conflict in Afghanistan saw a decline in traditional canal maintenance mechanisms. This was partly due to changes in social relationships but was also brought about by deterioration in the economic conditions. Functions that had been taken over by the government were no longer fulfilled. As a result, many irrigation systems are not functioning at their full potential. The project is part of a larger river basin project intended to address issues such as upper catchment management, infrastructure rehabilitation and capacity building. SWIM is one of two projects intended to improve the management of irrigation water in the Amu River Basin.

Documentation on which project was based

The proposal was based primarily on the Guidelines for Grant Applications provided by the EC. The WFP web site was used to assess projected food shortfalls in Afghanistan. The historical context and the deterioration of irrigation management in Afghanistan draw on documents prepared by AREU, notably "Water Management, Livestock and the Opium economy" (2006). Population figures were obtained from the Afghanistan Statistical Yearbook, 2003 (Afghanistan Central Statistics Office).

Project design quality

The project design was basically quite sound and logical and Concern had obviously consulted with staff of other social water management projects as well as undertaking preliminary assessments in the project area. The proposal tried to incorporate lessons learned from KRBP social water management projects. As Concern had not undertaken previous social water management projects, they could not make use of previous project evaluations. It is not clear if evaluations of GAA's social water management project were taken into account. Presumably they were.

Among the few stranger suggestions was that the small infrastructure projects might include "community houses or disaster response materials". Otherwise the project was technically sound and followed well proven strategies such as the formation of Water User Associations to improve irrigation management.

Concern's familiarity with Afghanistan in general and the project area in particular meant that the design of the project was appropriate to the geography and culture of the area. The proposal acknowledged the potential resistance from traditional *mirabs*, *chak bashis* and *kook bashis* and explained how these could be overcome.

The proposal conformed to the EC regulations and was consistent with the Guidelines for Grant Applications for the proposal. It fitted well with the goals of the EC programme which was to contribute to poverty reduction by improving good security. The project has addressed the problems on which the call for proposals was based.

Quality of logical framework

The original LF was generally fine except that some OVIs were actually activities, for example attendance at training. Some test of whether attitudes or knowledge had changed as a result of the training would have been a result. The history of the various ARBP logical frameworks has been discussed in the previous chapter (page 15). At one point during the its history, the SWIM project was guided by three LFs: (a) the original SWIM project LF, (b) the LF used by ARBP (which had a social water management component) and (c) common objectives, results and indicators agreed in the spring of 2008 between the all NGOs engaged in social water management and upper catchment management operating under the umbrella of ARBP. The revised LF submitted to the EC in September 2009 was based on the latter on the advice of the ARBP M&E consultant. The revised LF was better than the SWIM project's original LF though it still left a lot to be desired.

A more objective assessment of improved water management (specific objective) than the suggested User Satisfaction Index could easily be devised by monitoring irrigation amounts and frequency delivered to a sample of farmers throughout the project area. Similarly, the User Satisfaction Index for improved institutions (Expected Result 1) was inappropriate (such as expecting beneficiaries to be able to validate reports from WUG and WUA committee meetings). The third Expected Result in the original – changed attitudes and knowledge – should have been retained.

Selection of beneficiaries

The final canal selection was undertaken by the EC in consultation with the provincial government and the ARBP TA. To a large extent beneficiary selection was outside Concern's control. However, the proposal stated that: "*research will be conducted along the canals, prior to organizing the people, to identify who benefits from the different sections*". The consultant has seen no documentary evidence for such a survey.

The project team have made strenuous efforts to ensure a wide representation in WUG and WUA committees. Only about 60% of the households are farm owners or share-croppers (about 31% of farmers are share-croppers), the other 40% being landless and earning a living from farm labour or other types of work. 47% of the WUG committees have at least one woman on them and 70% of WUA committees have at least one woman member (Appendix 9). On average, women (usually older women) constitute 12% of WUG committees and 4.5% of WUA committees. As well as women, WUG committees also include share-croppers and other water users such as owners of wheat mills and micro-hydro power systems (though there are no data readily available on the actual numbers). Women do not attend committee meetings and tend to be informed of decisions rather than take part in them but they do sometimes mediate between women in the community and the WUG committee. Some women send their sons to the WUG or WUA meetings. Sometimes they have separate meetings, especially when project staff are visiting. No records are kept of such mediations.

Efficiency

Quality of management

The project manager has been in post since May 2008, five months after the project contract was signed, apart from the period from May to September 2010, when he managed the project remotely from his home in India. The manager has qualifications up to MSc level in Forest Technology, other qualifications in Agriculture and Management and has an extensive career background that includes community based resource management.

The project manager has had a good rapport with the staff, had learned Dari and has good management skills. Job descriptions have been well defined and there seem to have been no major conflicts between staff. There is a weekly staff meeting to assess progress and solve difficulties and there is a monthly planning meeting. The chair of the meeting is shared between the senior staff.

Time spent by the manager and other senior staff in the field has had to be curtailed in the last year of the project because of the deterioration in the security situation. The Project Manager and the Programme Coordinator had visited beneficiaries (other than Rustaq) only once in the previous six months.

The project seems adequately supported from Kabul and a regional support office in Taloqan and this is confirmed by project staff. The country director visits the project around three times a year and other senior staff, more frequently.

Partnership with DWHH

The original proposal stated that there would be a full time project manager and a full time expatriate irrigation engineer supplied by the partners, DWHH/GAA. There were also to be two expatriates working on the parallel upper catchment management project, SMILE (one manager to be paid by Concern and one agroforester from GAA). When the SMILE manager was appointed in May 2008, a manager had not yet been recruited for SWIM so as an interim measure the SMILE manager managed both projects and was costed 50% to each project accordingly. Although attempts to recruit a manager for SWIM continued, as security deteriorated it was becoming increasingly difficult. Finally it was decided that the SMILE manager would continue to manage both projects. GAA failed to recruit an agroforester for SMILE but the manager, a qualified forester was able to provide technical support.

The GAA irrigation engineer for SWIM did not arrive until the end of December 2008 and left in July 2009 after seven months work when GAA withdrew from NE Afghanistan because of increasing security concerns. Even while working on the project, GAA security protocols meant that the engineer did not live in the project area, but in Taloqan. After the withdrawal of GAA from NE Afghanistan in July 2009 and the subsequent submission of a no-cost extension request was submitted in September 2009 (the revised budget was not submitted until the spring of 2010, finally receiving approval in May 2010) it was decided not to replace the irrigation engineer, partly because it would take too long to recruit someone and partly because there were concerns that whoever was recruited would not be willing to stay in an increasingly insecure area. This meant that one expatriate was managing two projects and was also the technical advisor for both projects.

The absence of an expatriate irrigation engineer on SWIM for most of the project duration has had a deleterious impact on the quality of the technical work and this is discussed later (and it may also have meant the work of the SWIM/SMILE manager was spread too thinly between the two projects). It must be emphasised that the decisions were made against the backdrop of the deteriorating security situation in the

region and in no way reflects badly on Concern. These experiences have caused Concern in Afghanistan to have misgivings about future partnerships.

Concern Worldwide and Welthungerhilfe are both members of Alliance2015, a partnership of seven like-minded non-government organizations working in the field of development cooperation and they have been partners in a number of projects throughout the world. The experiences with the partnership with DWHH in Afghanistan in general and the SWIM project in particular give no reason for Concern to reconsider the wisdom of their membership of Alliance2015 or of future partnerships with Welthungerhilfe as there are obvious synergies between the two organisations. The declining security circumstances in Afghanistan that led to DWHH making the decision to withdraw were exceptional. It has been stated that the Irrigation Engineer was not prepared to live in Rustaq because it was so remote but DWHH had a deputy manager living in the fairly remote districts of Takhar (Warsaj and Farqar) when they were partners with Concern in the IDEAS project (and security was better) so this is not a pattern. However the experience with the partnership does illustrate the problems of having a partnership between organisations with different security protocols and different ways of assessing levels of insecurity. Other partnerships between NGOs in the north-east of Afghanistan have experienced problems in recent years also, mainly over management and budget issues. They should be entered into with more caution in future.

- *It is recommended that before entering into future partnerships, a careful analysis of the possible risks should be undertaken both jointly and separately by the potential partners. Questions that need to be asked include the following:*
  1) *How are security decisions arrived at and what will happen if the perceptions of the partners' management differ when the security situation changes?*
  2) *Have each partner carefully assessed all their costs, including overheads?*
  3) *Does each partner really have the capacity to provide the services they say they will provide?*
  4) *Do partners share a common approach and what added benefits will the partnership deliver?*
  5) *Are the project management structures and lines of command clear and acceptable to both partners?*
  6) *To what extent will senior staff from different partners have authority over the other partner's staff?*
  7) *Have the partners agreed to share job descriptions and requirements before recruiting?*
  8) *Are differences in the salaries and benefits of national and international staff acceptable or will the cause friction and jealousy?*
  9) *Is there complete agreement about where any international staff will be based taking into consideration the difficulties with recruiting key staff and implications for the project, other partners and budget expenditure?*
  10) *Are both partners in complete agreement with the project proposal, strategies to be adopted, the budget and the logical framework?*
  11) *Is there compatibility between the partners on the ethos, crossing themes and other key tenets that will guide the project?*
  12) *Is there agreement over which organization will take the lead in delivering the project and which will provide support (such as training and technical expertise)? Situations in which both organizations have a full complement of staff in the same communities should be avoided in order to prevent clashes over management and increased overhead costs.*
  13) *Have the lines of communication, key responsibilities for donor reporting, representation to other organisations and media, all been agreed?*
- *Letters or Memoranda of Understanding should be comprehensive and drawn up carefully by managers who have country experience and who are aware of the pitfalls. MOUs should be agreed before the signing of the lead partner and EC and signed by both partners concurrently with the signing of the contract. The MOU should clearly state what activities each partner is responsible for and the budget allocation to each partner for programme and overhead unit costs.*
- *Given the unstable situation in Afghanistan, it may be more prudent to avoid full partnerships for the time being and to negotiate looser agreements (which the EC refer to as "associates")*

Quality of monitoring

The consultant met with the new M&E Advisor for only a few seconds at Faizabad airport. His view was that the M&E system in Concern Afghanistan needed to be improved generally (which is why he was appointed). A series of week-long trainings in M&E is planned for senior staff including the staff who will be managing SWIM 2.

The inadequacy of the M&E system suggested by the M&E advisor was born out during the consultant's visit to the project. The baseline survey received by the consultant provided useful information about the project area but it was not geared to measuring baseline date for the OVIs in the LF. The M&E system generally was not sufficiently based on the OVIs in the LF. What data there is dispersed in different files and

computers so that it is difficult to find. It took many days for the consultant just to obtain a list of WUGs with the number of members and number of committee members.

The proposal stated that the monitoring of the progress of the project would be based on the situation described in surveys and participatory research consisting of: canal assessment surveys, the history of the canals, social and economic profiles, natural resource management, power structures, water management constraints, detailed crop surveys, *etc*. No documentary evidence was seen of such surveys having been methodically carried out.

Project progress reports generally record activities and not an assessment of the progress towards the Expected Results. However mostly they seem to have been submitted on time and circulated to the appropriate people.

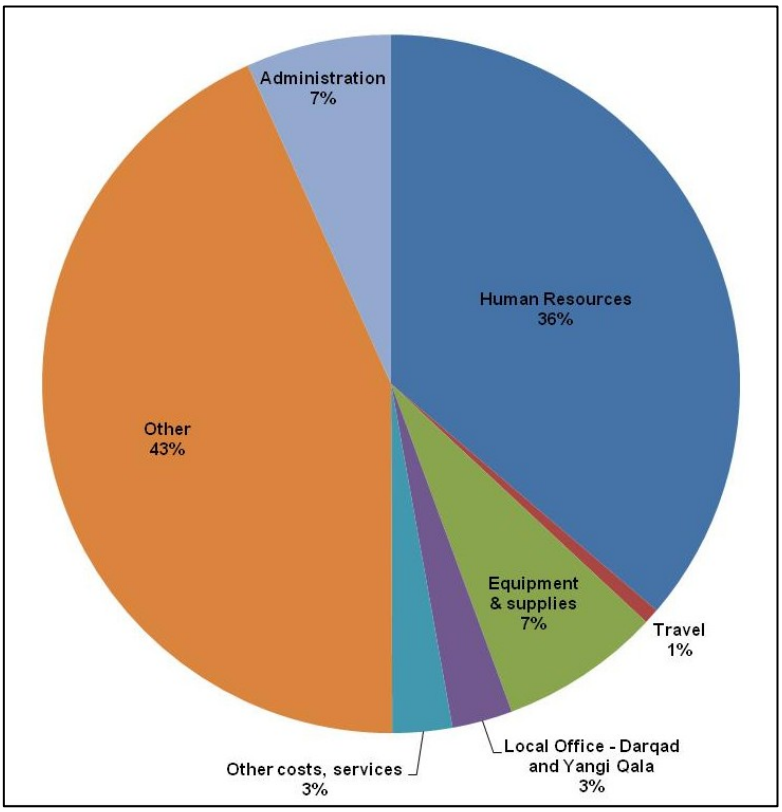
- *It is recommended that project progress reports (quarterly, biannually, annually) attempt to assess progress towards the Expected Results as well as a list of activities completed and that the M&E system be geared to such continual assessment.*

The project has implemented a good participatory monitoring system in which beneficiaries visit sites to ensure the work is of good quality, for example by checking the mixtures being used for concrete. District governors and the provincial head of Water Management also visit project sites to monitor the progress of the project.

Cost-effectiveness and utilization of funds

Co-financing has been provided from Concern Worldwide general funds. The project expenditure incurred to the end of November 2010 was €1,051,885. The expenditure projected to the end of the project (31st December 2010) is €1,283,071. The majority of the spending in December was on small infrastructure projects. A pie chart showing the distribution of project expenditure is shown in Figure 6.

Figure 6. Pie chart showing distribution of (projected) expenditure between major budget heads



The largest human resources cost was the 12 community mobilisers and the next largest was the expatriate project manager. Virtually all the travel costs were down to in-country travel. The largest expenditures under equipment were vehicle capital (two vehicles) and running costs. Visibility actions were the largest item under "Other costs and services" and by far the largest expenditure (93%) under "Other costs" was for small infrastructure items.

Most of the "Other costs" accrued directly to the community and so the *alpha* (α) value, the percentage of project costs spent on direct benefits to the community is 43%, which is considerably higher than most

similar projects in Afghanistan. (However, the consultant is of the view that in general, projects with high α values do not necessarily make for good development).

There has been an internal audit of Concern Afghanistan projects generally and there has been an external audit of SWIM by a Pakistani company.

Most of the project activities are cost-effective. However

- *it is recommended that a cost-benefit analysis for engineering works is undertaken before work starts and that steps are taken to provide the necessary training to staff.*

Timeliness

The SWIM project formally started in January 2008 but the Project Manager was not recruited until May 2008. The GAA Irrigation Engineer did not arrive until the end of 2008 and left after 7 months. The problems and delays in recruiting senior management have been discussed above (page 23). The project did not get under way until 5 months after the contract was signed though recruitment and other administrative procedures such as establishing an office in Yangi Qala and Darqad (now closed because of security) had already started before the arrival of the manager. It took another few months after the arrival of the manager before all the key staff were in place.

Turnover of staff during the project was around 20% because of the deteriorating security situation.

Inputs have been supplied promptly to the project HQ and the Concern procurement system seems to be reasonably efficient. Final delivery to site has sometimes been delayed because of security and the poor access roads, in some case necessitating the delivery of materials by donkey.

In September 2009, a project no-cost extension was applied for. This was necessary to expand the number of small infrastructure projects but also to complete the development of their bylaws and management plans for the WUGs and WUAs.

Methodology

Participatory approach

SWIM has adopted a participatory approach which has contributed to the success of the project despite the difficulties. However,

- *in deciding about the design of engineering works, engineering and economic considerations should be given priority over community demands.*

Traditional and current water management practices

No studies have been found on traditional and current water management so the management system is well based.

- *In SWIM 2, more effort should be made to study what is actually happening with regard to water distribution and changes in power structures. The logging of water distribution to a sample of farmers as outlined earlier (page 15) would help to answer this question.*

WUAs and WUGs

Details of WUG members are incomplete. The system of representation of WUGs on WUAs needs refining. Financial arrangements are not yet well developed. Registration with the government is still delayed because of uncertainty about the registration procedure.

- *All users in each WUG should be registered clearly with names, addresses, amount of water they use or area of land irrigated from the canal.*
- *Village representation on the WUA committees should be proportional to the command area of each WUG that sends representations to the WUA.*
- *Once financial systems are in place, all members of WUGs should be required to pay fees according to quantity of water they consume. WUGs should then submit a portion of these fees to the WUA for canal level Operation and Maintenance. Households that use water only for domestic purposes should be exempt.*
- *As soon as possible, WUAs should be encouraged to open bank accounts.*
- *Once the registration procedure is clarified, WUAs should be registered with the government as soon as possible.*

Data collection

Maps of the canals were not produced until the EC desk officer requested that they should be made. There are now GIS data for intakes and off-takes. However,

- *it is recommended that under SWIM 2, maps of each WUG command area showing all off-takes and dividers are made at a scale of 1:5,000 to facilitate the development of detailed WUG level water management and canal maintenance plans.*

The needs for an improved M&E system have been discussed above.

District focus

SWIM has used District Steering Committees to help solve operational problems. These have been useful, especially in the absence of the Sub-Basin Working Group.

- *In SWIM 2, once the Sub-Basin Working Group (and then the Sub-Basin council) has been established, the District Steering Committees should be phased out and local problems solved with the governor and other actors on an ad hoc basis.*

Changes to methodology

Some changes in the way the project was being implemented were made in the light of experience. For example, inputs were originally delivered to warehouses and then transported to construction sites later. As far as possible, deliveries are now made direct to the construction site. Originally 80% construction supervision was provided by Concern, later 80% of the supervision was provided by the community.

Mullahs were not initially invited to training workshops. As the project progressed it became clear to staff that involving the mullahs in training and in the project generally brought a lot of benefits.

Quality of inputs

Staffing

The staff inputs are summarised in Table 1. All the community mobilisers are school leavers at 12th Class level. The Senior Programme Engineer has a diploma in civil engineering from Kabul University; the agriculturalists have Diplomas in Agriculture from Balkh University. Two of the field engineers have diplomas (one from Kabul, one from Balkh, one from Russia). The general education of the technical staff are therefore rather low.

- *In the absence of more qualified local staff, it is recommended that the SWIM 2 plan to have consultants visit each year, particularly in civil engineering, irrigation management and water use, and institutional development.*

The months budgeted for each level after the budget revision of May 2010 give an indication of the actual staff input compared with the input that was planned. The problems with recruiting an international manager and irrigation engineer has already been discussed. It will be observed that the number of months input by technical staff (agriculturalists and engineers) is less than originally envisaged even though the project was extended by 12 months while the inputs from administrative staff has increased significantly. This change of emphasis has undoubtedly had an effect on the impact the project has been able to have. No doubt a major factor has been the difficulty in recruiting technical staff in Afghanistan.

Engineering materials

There have been no complaints from staff about the quality of cement – no reports of it being damp for example. However the gabions used are from China and these would appear not to conform to British Standards – the internationally agreed benchmarks. The gabions in all the gabion walls inspected are rusting – in some cases just four months after construction. The project management is referred to the engineering standards required by P-ARBP in its contracts which accompanies this report as Annex 1.

- *Training for all engineering staff should be provided to familiarise them with engineering standards with practical field work.*

There are a number of civil engineering testing laboratories in Afghanistan where materials such as gabions and cement can be tested to see if the conform to international standards. Two such companies are:

Construction Material Testing Centre (CMTC),
House #5, Feroz Kohi Street,
Hoza-e-Awal
Kunduz City
Email:m_umarf@yahoo.com & cmtc.kunduz@gmail.com
Cell:-+93 775 497812; +93 786 988 229

RISE Engineering,
House No.399, Lane No.6, Street No.15,
Wazir Akbar Khan,
Kabul,
Email: info@rise-engineering.com
Mobile:-+93(0) 777-544-913; +93(0) 7000-683-99; +93(0) 77 24 29 524

- *It is recommended that project staff submit samples of engineering inputs to a testing laboratory, especially gabions but also cement and other materials for testing. Ideally this should be done before committing Concern to a large purchase from a new supplier.*

At various times, project staff have rejected reinforcing rod, wheel-barrows, shovels and pick-axes because they were of a poor standard.

Table 1. Staff inputs

	Original proposal	Costed to SWIM since budget revision (May 2010)	Approximate Time allocated (3)	Months in original proposal	Months in budget revision of May 2010
Project Manager (international) (1)	1	0.5	0.4	24	16
Irrigation Engineer (international)	1	0	0	24	7
Senior Programme Engineer (national)	0	0.5	0.7	0	0
Programme Coordinator	0	0.5	0.4	0	8
District manager (2)	0	1	0.9	0	8
Assistant Field Engineers	3	3	3	72	67
Head agriculturist	1	0	0	24	12
Agricultural extension officers	3	2	2.15	72	46
Community Mobilisers	12	8	7.6	288	327
Regional finance officer & Administrator	2	0.5	0.5	48	130
Office Assistant	1	1	1	24	41
Translators	2	0	0	48	0
Drivers, guards, cooks, cleaners	11	17	17	264	345

Notes:

1) The project manager cost has been shared with SMILE since his arrival at the end of April 2008. Since September 2010, the project manager for SWIM and SMILE became the Senior Programme Advisor responsible for advising on NRM, Social Water, Project Management, and Reporting etc issues. This advice will be provided remotely as well as spending 6 months a year visiting project sites.
2) District managers have in effect been managing all the districts for specific projects and will be renamed Area Manager from January 2011. The District Manager for SWIM resigned in September 2010. Since then, the district manager for SMILE has worked 30% of his time for SWIM and the Sr. Programme Engineer 70% of his time.
3) Where the time allocation is more than the costing, it is because staff costed to other projects have provided time inputs into SWIM

Engineering design

The standard of the engineering design leaves a lot to be desired. This is particularly true of the more complex structures. The gabion structures seen do not have sufficiently deep foundations and do not take into account potential scour depth[10] (they do not have a scour protection mattress apron). A design manual for gabion protection walls and a document on how to calculate scour depth have been sent by the consultant to the Senior Programmes for sharing with engineering staff. Design documentation in the project should be such that someone reading the design after the engineer who designed a structure has left can visit the site with the design and understand exactly why the structure was proposed and all the stages in the design process.

- *It is recommended that during the training to be provided by the Dublin-based Concern Senior Engineer in 2011, one or more standard design templates (electronic, not a paper form, so that sections can expand as necessary) should be developed possibly following the following scheme:*

  Section 1: Background to the project*. Describe the process by which the community made the proposal to Concern. What problems does the project address. What will be the result? Provide details of the participatory design process including all dates and who attended. How many beneficiaries will there be and what is the area land for which irrigation will be improved. There should be a cost-benefit analysis and a calculation of the Internal Rate of Return for the proposed scheme.*

  Section 2. An analysis of the hydraulics of the situation*. Give estimated flows in primary and secondary canals before and after the project and at different seasons. These should include some actual measurements in the field. Provide an estimation of reduced water losses to seepage (if any). Estimate any increases in irrigation efficiency, and / or water management. For example state by how much water lost will be less than before the project and any increases in frequency or duration of*

[10] Calculation of scour depth is not a simple exercise. A document that explains the procedure has been sent to the Senior Programmes Manager. ARBP assume the scour depth is the same as the maximum flow depth.

irrigation to beneficiaries. Provide a sketch of the proposed solution. Show hydraulic calculations before and after the project

Section 3. Detailed drawings of construction. *These should be produced only after the project manager is satisfied that the project is not only supported by the community but that it makes engineering and economic sense.*

Section 4. Bill of Quantities

Section 5. Signed approval from WUA / WUG committee.

Agronomic advice

An agricultural survey carried out by an irrigation agronomist supplied by the ARBP TA reported deficiencies in crop husbandry. Most crops perform poorly, not only to due to the lack of new varieties or improved seeds, but also to crop, water, and soil fertility management. Lack of access to improved seed was a common complaint by farmers during the evaluation. Conclusions and recommendations of the ARBP survey have not been well applied in the irrigation schemes (and have not been well communicated by ARBP either). The quality of crop husbandry should be improved in SWIM 2 and aspects of irrigated crop production should be demonstrated in farmers' fields. Training courses are not sufficient.

- *In phase 2, Farmer based trials of a range of innovative agricultural practices and trials of improved (and accessible) crop varieties should be undertaken in farmers' fields, preferably with the support participation of an irrigation agronomist from the MAIL to ensure sustainability.*

Training courses

The SWIM project has conducted many relevant training courses and workshops for WUG committees, WUA committees, WUG and WUA members, and government staff (including an exposure visit to Tajikistan). The courses included agricultural and resource management topics such as the need for good crop rotation practices, the benefits of diversification, canal maintenance, and the management of common property resources. Farmer Field Schools (FFS) were set up, one per canal.

Training has also been provided in leadership, conflict resolution, and management (including some book-keeping). There have been workshops to develop group bylaws and for participatory design or engineering structures.

The main comment on the group management (leadership, conflict resolution, and general management) is that the cartoons (and practical examples) in the materials should be adapted to local conditions. Pictures of men with brief cases and Western men arguing are not easily identified with. Having said that, all the groups interviewed reported that they found the training helpful, particularly the conflict resolution training. Training in SWIM 2 should include financial management and water fee determination.

Quality of outputs

Engineering structures

Most of the smaller structures seem to have been constructed to a satisfactory standard. The main misgivings concern the lack of adequate design of the more complex structures (see above) such as the two covered canals crossing the river at Rustaq and the diversion structure at Qarloq in Lala Guzar, Khawaja Baudin district. The ARBP civil engineers who have seen the structures at Rustaq are very sceptical about the appropriateness of the design.

- *It is strongly recommended that the Concern Senior Engineer due to visit the SWIM 2 project in 2011, comment on these more complex structures.*

Some long (for example 46 m) concrete canal walls do not have expansion joints. The consultant was told that joints were not necessary on lengths as short at 46 m. The American Concrete Institute[11] specifies that in canals there should be joints every 4 to 5 m for 110 mm linings. However technical specifications issued by ARBP state that expansion joints should be every 15 to 20 m. A compromise could be to adopt a maximum spacing of 15 m.

The project proposal states that the project will have an "infrastructure component to build small structures along canals". There is no mention of large structures to lead water across large river beds as have been constructed in Rustaq. The ARBP MTE pointed out that Concern (as with other NGOs) do not have the technical capacity to undertake design of such complicated structures unaided. Following that report,

- ❖ *it is recommended that final design of all the hydraulic structures, including gabion works, is validated by the ARBP TA.*

[11] **American Concrete Institute.** 2001. *Joints in Concrete Construction.* ACI 224.3R-95. Reported by ACI Committee 224.

Also

- *it is recommended that hydraulic structures in wide rivers with unstable beds are not built by the SWIM 2 project*

Finally, in order to limit the complexity of structures,

- *the cost of a package of irrigation structures should not be above €10,000 and the maximum cost of a single structure should not exceed €5,000*[12]*.*

Training

The impact of training has been poorly monitored. Feedback forms despite their drawbacks, should be part of the M&E system. More importantly no attempt has been made to measure the implementation of what was learned during training courses. It is not sufficient to list the number of courses.

Co-operation with government and local leaders

The two district governors interviewed (Rustaq and Yangi Qala) during the evaluation were very complimentary about Concern in general and SWIM in particular and are satisfied with the project's relationship with the government. They were closely involved in prioritising infrastructure work at the beginning of the project. The Rustaq governor or his deputy participate in regular project monitoring visits and has taken part in training workshops (leadership, conflict resolution) which he found useful. Staff in the departments of agriculture, water and economy at both district and provincial levels have also had good contacts with the project staff. Quarterly reports are sent to the provincial governor; bi-annual reports have been sent to the Ministry of Economy in Kabul and monthly reports have been sent to ARBP and P-ARBP.

There have been frequent monitoring visits by the Provincial head of Water Management Department in Taloqan (Engr Salim). On one occasion Engr. Salim came to help resolve a dispute over water in the Gogari WUA. On another occasion, he brought the Provincial Governor to discuss the project with staff in Rustaq. Similarly, relationships with district government staff have been excellent. Government staff are not usually given per diems. Concern merely provide logistics and food though if these are paid for by the government staff visiting, they are reimbursed using the same rates as Concern field staff.

Similarly local leaders (including some commanders, *mullahs* and heads of *shuras*) have been included in the group formation process and according to WUA and WUG committees interviewed, there has been very little negative reaction from shura leaders, mirabs or commanders. On a number of occasions, WUA and WUG committee members have negotiated with armed groups to allow the project to continue and on one occasion to release a delivery vehicle that had been highjacked.

SWIM has maintained regular contact with government officials through a District Steering Committees. In every district a committee has been formed consisting of the governor, WUA and WUG representatives, farmers and mirabs. The steering committees in each district hold regular monthly meetings. In these meetings project progress, challenges, lessons learnt and other social problems related to water management was discussed.

As suggested earlier, these committees should be phased out under SWIM 2, once Sub-Basin Working Groups have been established. Problems needing the involvement of governors and community leaders should be solved with them on an *ad hoc* basis.

Access

The main restriction on access has been the deteriorating security situation especially since the middle of 2009 when the parliamentary elections were held which has made it difficult for staff to meet with communities. Poor security has affected mainly Yangi Qala, Kojabuddin and Darqad. Rustaq has remained relatively peaceful though in the middle of 2010 it was subject of a drone attack. Security over the two months prior to the evaluation meant that most staff had not visited these districts (WUG and WUA representatives come to Rustaq for technical advice when staff cannot reach the area). Project staff estimated that the security situation had caused a reduction in infrastructure construction of around 15% compared to what was planned (the reduction in progress occurring mostly between June and December 2010). Having said that, the consultant was able to visit parts of Yangi Qala and Kojabuddin districts during the evaluation visit. Some areas are difficult to access during the rainy season. Darqad is accessible for only 9 months a year. Internet access at the Rustaq office is reliable though rather slow. There is no internet access from the Yangi Qala office.

[12] from ARBP MTE

Effectiveness

Achievement of results and objectives

The extent to which the results have been achieved has been discussed in detail in Section 2. To summarise, 13 WUAs have been formed (Result 1) as described in the proposal and the LF and 71 WUGs have been formed. The WUGs are based on villages and their membership needs to be modified in SWIM 2 to ensure that all farmers receiving water from the same sources are members of the same WUG. Infrastructure plans (Result 2) were developed and implemented though at the time of the evaluation, almost 25% of structures were still being built. All plans were for infrastructure improvements financed through the project. As yet WUAs are not developing improvement plans that will be financed by themselves (though they do make repairs themselves). Water management plans have been developed (Result 3) for WUAs, but not for WUGs. The plans are heavily dependent on the project staff. Canal maintenance plans have been developed (Result 4) for WUAs and WUGs but again the plans are very dependent on project staff.

Floods in 2009 created an emergency situation that Concern management felt obliged to address. For some months many communities were diverted to emergency repair work (non-food items and cash for work) funded from other sources. As far as possible this emergency work was integrated with the SWIM project which did not suffer unduly as a result of this diversion.

It is a tribute to the hard work of the SWIM project staff that they have achieved as much as they have despite the poor security for many parts of the project area for long periods during the project cycle. The project will have contributed significantly to the overall objective of fostering "*poverty alleviation through improved food security*".

Appropriateness of activities and technical designs

All the activities listed in the LF were appropriate and contributed to the achievement of the results. Some have not been carried out as well as they could have been, for example: "Study current traditional arrangements and water needs at community level" (ER2, Activity 12); "Development of improved cropping patterns and rotations" (ER3, Activity 16); "Formulation of water utilization plans on WUG and WUA (canal) level" (ER 3, Activity 18); Publications and Manuals (ER4, Activity 25).

The quality of the engineering designs has already been commented on. The consultant and ARBP civil engineers have serious concerns about the appropriateness of the three covered canals criss-crossing the wide, unstable river bed at Rustaq.

Co-ordination with other projects and donors

While there has been good interaction between the SWIM project and other Concern projects in Takhar (such as IDEAS), the relationships with similar projects being implemented by other NGOs such as PMIS by AKF has been very limited. AKF operate livestock and upper catchment activities in all four SWIM project districts. Other projects include Mercy Corps whose IDEA-NEW project operates in Yangi Qala; Terre des Homme (Switzerland) have livelihood projects (including bee-keeping promotion and solar energy demonstrations) in the area, including Rustaq; Swedish Committee that are working with handicapped; ACTED that operate NSP in the area; and BRAC that is introducing micro-credit. There have been no exposure visits arranged to projects implemented by other NGOs. However there are annual provincial workshops for government officials and NGO staff at which NGO projects are discussed. Project staff also attend P-ARBP coordination meetings and Steering Committee meetings at which they meet staff from other NGOs.

The relationship with ARBP has been weak, especially over the last two years of the project.

Impact

Result of project

The project has improved crop production through a combination of infrastructure improvement and the better irrigation management brought about by the WUAs and WUGs. Cropped area has increased, wastage of water has been reduced, quantities of water delivered have increased and water is managed more efficiently. Water distribution to farms is more reliable. There are now more orchard crops, more vegetables and more poplar being grown and these changes will have improved nutrition (again not monitored) and household income. In some areas, potatoes are now being grown on ridges which is a much more efficient method of irrigation. The structures have reduced flooding of canals and farmland in some areas. Where the SWIM project has constructed improved infrastructure, tree felling to make repairs has declined. Export of food from the area may have increased though this has not been monitored.

The SWIM project is one of several water management projects being undertaken within the context of the P-ARBP and has contributed to the ongoing debate about the implementation of the new Water Law and in particular has been among the projects spearheading the formation of Water User Groups and bringing

about the institutionalisation of water management in the Lower Panj Sub-Basin. However awareness about the Water Law among group members is weak and

❖ *it is recommended that training in the implications of the Water Law are provided in the SWIM 2 project.*

During the field visits and the interviews with the beneficiaries, there was no evidence that people are disadvantaged by the interventions. However, no income monitoring of households has been carried out to identify groups that could be disadvantaged by the interventions.

Impact on beneficiaries

According to project reports, the project has directly or indirectly benefited 74,281 women and men (according to the 2008 baseline survey). According to data provided in Appendix 9, this represents 9,214 households of which 4,619 are farmers and of these, 1,433 are engaged in sharecropping.

According to interviews by the consultant, the project has affected people in the following financial and agricultural ways:

- time and money spent on maintenance has decreased;
- there is now a lower need for contributions for canal maintenance because of the improved infrastructure and the better water management;
- the need for community labour (*hashar*) has decreased because of the improved structures;
- project staff thought that borrowing money had reduced (though there is no monitoring of this).

There have been reductions also in conflict and water distribution is more equitable:

- incidents of people jumping their turn in taking water for their farm has declined;
- conflicts are now resolved more rationally than previously when there were often fights over water;
- incidents of powerful people using more than their proper share of the water have declined.

The conflict resolution course have been particularly valued. In one village, 10 conflicts involving at least 20 people over water had been resolved successfully over the last 2 years.

People have changed their attitudes towards development:

- at beginning of project there was a marked “give me” mentality whereas now beneficiaries take more responsibility and contribute to canal improvements by up to 40% of unskilled labour;
- people have clearer idea of their rights and entitlements;
- decisions formerly were being taken by one or two people whereas now, groups participate in the development process and have a bigger say in the improvements to their environment;
- people now show more ownership of improvements to their canals and are working for themselves more;
- community participation in decision making on water issues has increased;
- groups have become platforms for discussing development issues such as the role of women.

WUGs and WUAs function as a bridge between the community and the NGOs (though presumably WUAs and WUGs are not unique in this regard as the function is also fulfilled by the CDCs.

Impact on women and other disadvantaged people

The project has made a conscious effort to integrate women and the poor into the project. Women have been appointed to WUGCs and WUACs though they do not participate in decision making and do not meet with the men. The deputies of some WUAs are women and these organise meetings with other women, mainly when female project staff are around to facilitate the meeting. The women on the WUGCs and WUACs mediate between the committees and women with problems related to water supply. Women have benefited from training in business, agriculture and horticulture.

Farmers engaged in share-cropping and people engaged in wheat grinding and micro-hydro power generation have become members of WUGCs and WUACs. So far animal herders are not represented on WUGCs and WUACs.

Effect on local government and leaders

Government role in solving conflicts

Governor of Yangi Qala reported that people were now “disturbing him” over water conflict issues less than before the project. He estimated there has been a 65% reduction in conflicts being reported to him.

❖ *It is suggested that district governors be asked to record complaints related to water or land and that these data are used as part of the M&E system. If funds allow, computers could be provided for the purpose.*

On the other hand, project staff thought that relationships between the government and the community had improved and government staff were now more prepared to help to resolve conflicts more than they did.

Local leaders

Local leaders have benefited as they are given an opportunity to be associated with doing something creative in the community and receive some of the credit for improvements.

Commanders are now supportive of and closely involved with the project. In one village, a commander wanted to resite a canal to benefit himself. Through the collective action of the WUG the commander was convinced that the alignment should remain as it was because that way it would benefit a larger number of people. That particular commander was elected onto the WUA committee as it was realised that it was better to have to commander on the committee than outside it where he could do more damage. In the same way, some WUGs and WUAs have realised the benefits of having the mullah on their committees.

Mirabs

Mirabs

- had often been in power for over 20 years but are now elected on a regular basis;
- often used to collect money and did not do very much but now use of money and grain collected is used more transparently.

Uniformity of impact

The largest land-owners benefit the most from any irrigation improvement project. However the social dynamics are complex. Some farming households are both land owners and engage in share cropping[13] - in some areas as many as 20% of households. Land owners of farms being worked by share-croppers are not necessarily rich people. Some of the owners are people who have gone to Iran and other destinations in search of work. About 50% of households neither share crop nor own their own land. Nevertheless, most of these households benefit from working as labourers in farms. As farms become more productive, even labourers may benefit from more secure employment and from better availability of fodder if they are animal owners. However the project has not measured the extent to which different sectors of society benefit from the project.

Measuring impact on different economic groups should be incorporated into the M&E system for SWIM 2.

Poor security has meant that some areas have benefited more than others.

Visibility

Signage seen was not of high quality. Sometimes this is because of security but it is not always the case.

- *There should be increased attention to signage in SWIM 2 and preference should be given to concrete plinths with inscriptions carved in stone (preferable marble).*

Publications that the Visibility section of the proposal stated would be produced have not been. However the project has produced posters, wall planners for 2011, wall clocks, Water Law pamphlets, project fliers and notebooks for children. The project also facilitated the production in Taloqan of a 200 minute documentary film about the project that was transmitted on a local TV station over 10 days. An interview on local radio with the Head of Water Development Department for Takhar about the project was also arranged.

Sustainability

Continuation after end of project

Fortunately, the EC has agreed to finance a second phase of the SWIM project, albeit at a much reduced level of funding. The consultant discussed the issue of sustainability with all the WUG and WUA committees met. All were optimistic that by the end of the second phase of the SWIM project, the WUAs and WUGs would be in a position to continue unaided by Concern. They believe they will increasingly organise and finance their own infrastructure improvements schemes and that they will gradually improve their water management plans and canal maintenance plans. Naturally, they did hope to be able to identify sources of finance to help them and this is one area in which Concern could help the groups during phase 2. The institution building has been the greatest strength of phase one of SWIM and all communities have a much greater sense of ownership over the management of their water resources than they did at the beginning of the project.

Realistically, to achieve sustainability, it will be necessary for ARBP (or its successor P-ARBP) to accelerate the formation of the basin and sub-basin councils and in the meantime, to create sub-basin working groups.

Contribution from local communities

Contributions towards the unskilled labour inputs into infrastructure have steadily increased throughout the project. The test will come when the communities must pay for skilled labour and inputs such as cement and

[13] because of the way the baseline survey was carried out this is not obvious from the baseline data

reinforcing rod. It would be a great achievement of the SWIM phase 2 staff can lead at least some communities through the whole process of a small infrastructure improvement project without any outside funding whatsoever.

Role of government and local leaders

As pointed out by the Governor of Yangi Qala District, there needs to be more capacity building of district and provincial government staff if the impact of the project is to be sustainable. District and provincial MAIL staff need more training in irrigation management and engineering as well as financial management and institution building. In particular

- *a greater effort should be made in phase 2 to include MAIL staff in project implementation, not just in monitoring activities.*

Aid dependency

Concern is well aware of the dangers of engendering aid dependency. While communities wanted the SWIM project to do everything for them at the beginning of the project, they have gradually been weaned away from this attitude and communities are now much more self confident and self reliant.

4. SWIM and Concern's Strategic Plan

Introduction

One of the Terms of Reference for this evaluation was to comment on the SWIM project's fit with the Strategic Plan (2009-2013) for Concern, Afghanistan. To a large extent there is no doubt that SWIM has contributed towards the Strategic Plan (SP) as will be outlined below. Indeed the various versions of the logical framework for ARBP state that the overall objective is to contribute to "poverty alleviation through improved food security". Addressing poverty as a priority is the main Concern core value. SWIM contributes to Concern Afghanistan's other core values also.

Nevertheless, Concern must recognise a number of aspects of river basin management projects in general and their social water management components in particular. River Basin Management aims to ensure that water is allocated to stakeholders in a fairer and more rational way. Hopefully this will mean that in the long term, access to water in the upper reaches will be improved compared to the lower reaches of the catchments. It will also mean that water is distributed more fairly within the irrigation schemes. However ultimately, it will also mean that water will be allocated for industrial or other non-agricultural purposes and this will be reflected in subsequent logical frameworks.

On a practical level, donor-funded infrastructure improvements to irrigation schemes must target schemes with larger command areas in order to achieve value for money. The social water management components obviously must target those farmers with access to irrigated land (not necessarily owners). Thus social water management projects are not concerned with landless labourers. Furthermore, selection of villages and communities in a social water management project must be based on canal command areas (which, in turn, must be part of a designated catchment) and include all villages in the command area. Villages cannot be selected on the basis of poverty ranking (as was done in SWIM).

Relationship between SWIM and the strategic programmes

The relationship between SWIM and the strategic programmes is summarised in Table 2.

Programme	Contribution
Women's Empowerment	The project has made good progress in involving women in the water management groups. This was largely on the basis that many women are actively involved in irrigation in Takhar north (but also because women are responsible for washing and cooking which also use water). It would have been instructive to determine how many women in SWIM villages owned irrigated land but no such survey has been seen). Although some WUGs have women on their committees, the women do not attend the meetings. They are informed about decisions by the men. However they do act as intermediaries if there are women who wish to raise a concern with the WUG committee though the mediation is done informally. However overall, SWIM has not contributed significantly to the Actions listed in Strategic Plan for this programme.
Food, Income & Markets	This is the programme to which SWIM makes the greatest contribution to though as explained above it may not specifically target the very poorest and most marginalised. SWIM has contributed to the listed Actions, especially increasing crop yields, percentage of land under irrigation, farm incomes and access to markets.
Health	SWIM has made little contribution to the Health Programme though increasing water supply, even of canal water, may have some positive impact.
Education	SWIM has made little contribution to the Education Programme. Training for adults does not figure in the education programme.
Preparedness for Effective Emergency Response	In that farmers have been trained in improved canal maintenance, SWIM has contributed to Action 3: "Enable communities to respond effectively to disasters".

Table 2. Contribution of SWIM to Concern's Strategic Plan

Crossing cutting themes

The strategic plan specifies that there will be an emphasis on the cross-cutting themes of Partnership, Disaster Risk Reduction, Equality, HIV, Rights Based Approach, Social Protection, Planning Monitoring & Evaluation and Advocacy. The relationship between SWIM and some of the cross-cutting issues is discussed elsewhere in this report. Table 3 summarises the contribution of SWIM to cross-cutting issues.

Cross-cutting issue	Contribution by SWIM
Partnership	SWIM has no local NGO partner and so has made little if any contribution to this strategy. However "Partnership" should include also local government though this is not emphasised in the SP. The interaction with local government has been fairly good and is discussed elsewhere in this report. However ❖ *local government is not generally perceived by project staff as a "partner" and this should be remedied.*
Disaster Risk Reduction	SWIM has contributed to DRR (Action 2: Prevention) though the improved canal infrastructure and irrigation management which has reduced the risk of flooding to some extent. When structures are not well designed they may have increased risk rather than reducing it. This is discussed elsewhere. A participatory historical analysis of flooding in the canals and its causes would be a useful contribution for SWIM 2 to make.
Equality	As with Women's Empowerment, SWIM has made little contribution to the Equality Strategy. However this is not because of neglect by the project but because beneficiaries are selected on other criteria as discussed above.
HIV	SWIM has not made any contribution to the HIV policy. It would be inappropriate and not allowable to include HIV awareness and response in Social Water Management proposals as implied in the SP. There was no evidence of HIV awareness training for SWIM staff or beneficiaries.
Rights Based Approach	No significant contribution by SWIM
Social Protection	No significant contribution by SWIM
Planning, Monitoring & Evaluation	M&E and reporting in SWIM has not been as good as desired and this is discussed elsewhere. The SP recognises the need for improvements in M&E and these will be implemented during SWIM 2. Concern's compliance with the Humanitarian Accountability Project standards is dealt with in the Strategic Plan under Planning, Monitoring & Evaluation. The compliance of SWIM to HAP standards is discussed below.
Advocacy	There are no specific Actions for Advocacy in the SP. Projects like SWIM could have done more to help beneficiaries regularise land ownership where this is in dispute. Concern should consider what its policy should be if project staff become aware of illegal or corrupt practices by government or other actors that impinge on the project objectives (such as land grabbing, illegal logging).

Table 3. Contribution made by SWIM to cross-cutting issues in the Strategic Plan

Humanitarian Accountability Partnership (HAP) International Standards

The TORs of this evaluation required the consultant to assess the extent to which project complies with the objectives of the Humanitarian Accountability Partnership (HAP) International Standard in Humanitarian Accountability and Quality Management and in particular to "assess the scope of the internal complaints mechanism". An extensive audit is beyond the scope of this evaluation and a baseline survey is due to be carried out for all Concern Afghanistan during November and December, 2010. A summary of the extent to which SWIM conforms to HAP benchmarks is assessed in Table 4.

Benchmark in HAP standards	Actions specified in the Strategic Plan	Indicator	Observations by consultant
1: The agency shall establish a humanitarian quality management system ***4:*** The agency shall determine the competencies, attitudes and development needs of staff required to implement its humanitarian quality management system	Action 2: Participate in the HAP Project.	All relevant staff receives training in HAP in 2009 and Concern Afghanistan performs well in HAP audits.	Senior national project staff have had one day training in 2009 and more training is planned for January 2011.
2: The agency shall make the following information publicly available to intended beneficiaries, disaster-affected communities, agency staff and other specified stakeholders: (a) organisational background; (b) humanitarian accountability framework; (c) humanitarian plan; (d) progress reports; and (e) complaints handling procedures	Action 3: Provide information to beneficiaries about Concern's values and mission and about the programme they participate in.	75% of surveyed beneficiaries understand Concern's identity and targeting and equality policies and their entitlements from their programme.	Beneficiaries are well aware of their "entitlements from their programme" [what about duties?] though no statistical survey was undertaken. Committee members of WUAs and WUGs and district government staff would benefit from more information about Concern's identity. Handing out leaflets is not sufficient. ❖ *An audio-visual presentation in Dari should be prepared and delivered.*
3: The agency shall enable beneficiaries and their representatives to participate in programme decisions and seek their informed consent	Action 4: Involve beneficiaries in decisions including financial decisions and procurement processes.	Representative of beneficiaries are involved in budget planning for goods and services. Procurement groups formed and used.	Representative of beneficiaries are involved in budget planning for infrastructure projects. Beneficiaries were satisfied with infrastructure budgets which made it very clear what the project would provide and what the community contribution was to be. However the project budgets seem to have been supplied verbally rather than in writing. There are no procurement groups but it may be too early for these.
	Action 6: Respect established between staff and beneficiaries.	Beneficiaries express satisfaction in surveys and as captured in reports to donors	There is good mutual respect and rapport between beneficiaries and project staff.
5: The agency shall establish and implement complaints-handling procedures that are effective, accessible and safe for intended beneficiaries, disaster-affected communities, agency staff, humanitarian partners and other specified bodies.	Action 5: Establish internal and external complaints mechanism procedures.	Beneficiaries have access to Concern contact information and understand how to apply the complaints mechanisms.	Most WUG and WUA committee members had some idea about how to complain about project staff though the details differed. Most WUA and WUGs visited had telephone numbers of Concern senior SWIM management or regional management staff in Taloqan. More clarification is needed. The district governor of Yangi Qala said he would refer any complaints to the Provincial Economy Department. Concern should be clearer if they would prefer local government to complain to Concern Kabul first. A system for recording telephone, verbal and written complaints should be developed.
6: The agency shall establish a process of continual improvement for its humanitarian accountability framework and humanitarian quality management system.			More training on HAP standards are planned for January 2011.

Table 4. Summary of extent to which SWIM conforms to HAP benchmarks

5. Conclusions, lessons learned and recommendations

Monitoring and Evaluation

Design of logical framework

1. In the original SWIM LF many of what were entered as Results were actually Activities. Number of trainings attended as an OVI is not a good measure of changed attitudes. A way of measuring the impact of the training would have been needed.
2. The third component of the User Satisfaction Index OVI (*equitable availability of water*) for the Specific Objective is similar to one of the indicators for Result 3 (*Water Management Plans developed*) – "*the ratio of tail to head water flow*". Duplication of similar indicators in different parts of the logical framework should be avoided.

Spellings

3. Spelling of place names in SWIM documents vary widely and this is confusing for readers. In SWIM 2, a standard list of English transliterations of Dari spellings should be used in all project reports. The transliteration should be based on the Dari spelling, not on what the name sounds like to a non-Dari speaker.

Water supply

4. Water supply is a major constraint to planting a second crop in many parts of the project. As water supply is increased, there will be more farmers planting a second crop (though this also depends on the winter snowfall in the mountains). The number of farmers planting two or more crops a year should be carefully monitored.

Equitable distribution of water

5. Measuring the ratio of flow in the canal system upstream and downstream is not a practical way of measuring equitable distribution of water between upstream and downstream users. A more objective assessment could be obtained by monitoring a sample of farmers (say 130, 10 in each canal scheme) spread out between upstream and downstream farms and keeping a log of a) the date on which the farmer obtained water and b) the duration (minutes or hours) for which water was available on each occasion.

   In SWIM 2, more effort should be made to study what is actually happening with regard to water distribution and changes in power structures. The logging of water distribution to a sample of farmers as outlined above would help to answer this question.

Group commitment to sub-basin institutions

6. Simply to state "*Sub-basin council representation"* as an OVI for WUA participation in sub-basin institutions is not precise enough. Better OVIs would be:

   - *the average number of participants from SWIM WUAs at sub-basin working groups or councils compared to the number of participants invited*
   - *the number of delegates that put forward a motion or suggestion to the working group?*

   Until a sub-basin working group is formed, some indication of group commitment to participation in discussions at a higher level than the canal could be provided by monitoring the same parameters for stakeholder and coordination meetings.

Group maturity

7. Additional assessments of the degree of community participation in WUGs and WUAs would be useful. Some possible proxies include:

   - *number of meetings of WUGs at which all members (farmers in command area) were present, the attendance and the number of farmers in the command area;*
   - *attendance of farmers at initial meetings to elect officers of WUG (and number of farmers in the WUG command area);*
   - *attendance records of WUG committees compared with number on committee;*
   - *number of people on WUA committees and attendance records with dates;*
   - *number of WUGs and WUAs with women on their committees.*

   It is recommended that these parameters are recorded and kept on an M&E spreadsheet or database, not simply in narrative form.

8. More realistic indicators of group strength than the user satisfaction index used in the revised SWIM LF would be:

   - *the number of WUGs which assist the mirab in the collection of fees (grain);*
   - *the number of WUGs that collect money for materials for canal maintenance;*
   - *the number of WUAs that have organised canal level repairs through hashar and collection of money through WUGs.*

   It is therefore recommended that such parameters are recorded as part of the M&E system for SWIM 2.

9. The number of actions agreed in WUA meetings and successfully implemented is not recorded by the project M&E system. This should be rectified in phase 2.

Engineering structures completed

10. The data provided to the consultant contained some different terms that referred to the same thing such as retaining walls and protection walls, and "scape" and drainage. It is recommended that in monitoring files, the same name is always used for the same kind of construction in order to facilitate reporting of numbers.

Conflicts over water and land reported to district governors

11. It is suggested that district governors be asked to record complaints related to water or land and that these data are used as part of the M&E system. If funds allow, computers could be provided for the purpose. This could have a good capacity building function.

Reporting

12. Project progress reports generally record activities and not an assessment of the progress towards the Expected Results. Project progress reports (quarterly, biannually, annually) should attempt to assess progress towards the Expected Results as well as a list of activities completed. The M&E system should be geared to such continual assessment.

Water User Groups and Water User Associations

Organisation of WUGs

13. In order to improve the transparency and management of the WUGs, it is recommended that SWIM staff should conduct a survey and register all water users prior to next election of the WUG Management Boards.

14. Some farmers obtain water from secondary canals that provide water mainly to a different village to the one they live in. In SWIM 2, membership of WUGs should be adjusted so that all farmers receiving water from a group of off-takes are members of the relevant WUG even if they are from a different village to the one on which the WUG was originally based.

15. The sample WUA bylaws provided are not very clear. Advice should be obtained from P-ARBP or ARBP while preparing by-laws for WUAs.

16. WUGCs do not yet have written constitutions defining for example how often elections should take place. It is recommended that in SWIM 2, the project assists the WUGs to develop their own constitution or rules. They do not need to be as complex as the WUA bylaws.

17. As WUAs grow they will pay *mirabs* directly and will manage infrastructure improvement projects. They will need to receive fees from the WUGs and to open a bank account. As WUAs become stronger during SWIM 2, they should be encouraged to open bank accounts.

18. Once financial systems are in place, all members of WUGs should be required to pay fees according to quantity of water they consume. WUGs should then submit a portion of these fees to the WUA for canal level Operation and Maintenance. Households that use water only for domestic purposes should be exempt.

19. Once the registration procedure is clarified, WUAs should be registered with the government as soon as possible.

Membership

20. It has been noted that in project reports, there is confusion between the WUGs (all farmers in the command area) and the WUG committees. Similarly, the WUAs are not the delegates sent by the WUGs to participate in a WUA committee or board. The WUAs are all the farmers in the command area of the canal. These confusions are reflected in the bylaws of the WUAs. It is strongly recommended that care be taken in project reports and in WUG and WUA bylaws to distinguish between WUGs, WUAs and their committees or boards.

21. Although they are specifically mentioned in the Water Law, there are no seasonal herders members in the WUGs or WUAs. It is recommended that in SWIM 2, the possibility of including herders in WUG and WUA membership is investigated.

Appointment of WUGC members to the WUAB

22. The mechanism for selecting delegates from WUGs to be members of WUA Board need to be refined in some cases and it is recommended that the number of representatives sent to the WUA board should be defined by the quantity of water taken by the secondary canal or area of land irrigated.

Appointment of mirabs and assistants

23. Many *mirabs* are still selected according to traditional processes. Most are not perceived as employees of the WUAs. Eventually, all the *mirabs* should become employees of the WUACs, which should lay down selection criteria, and *mirabs* should be paid directly by the WUAs.

Self-financed canal improvement schemes

24. In order to ensure sustainability, by the end of SWIM 2, WUAs should develop and implement infrastructure improvement plans that are self-financed rather than dependent on donor support.

WUA Water Management Plans

25. The WUA Water Management Plans leave a lot of room for improvement. In SWIM 2, the WUA water management plans should be enhanced to include a narrative section listing all *mirabs, kok bashi* and *chak bashi* in the command area and their area of responsibility. The plans should also include contingency plans in the event of low water availability or breaches in canals and take into account the time that canals may be closed for maintenance. Project staff should refer to the paper by Torell and Ward (2010)[14] when developing the management plans to develop alternative distribution strategies when water is scarce.

26. To facilitate this part of the plan, each off-take should be numbered or named and the numbering or naming system communicated clearly to beneficiaries. A map of each canal command area should be prepared at a scale of 1:5,000.

WUG Water Management Plans

27. Water Management Plans for WUGs have not yet been developed with groups. It is recommended that in SWIM 2, water management plans should be developed for the WUGs as well as being refined for WUAs. They should indicate the schedule for distribution of water to farmers taking water from a given off-take. Ideally there should be a schedule by date. Farmers should know exactly when they can expect water. The plans may need to be modified in the light of flooding, breakages and maintenance work. This level of planning is necessary only for WUGs, not WUAs.

28. A method should be devised so that WUGs and WUAs can produce their own water management plans that are comprehensive and clear without depending on project staff to produce a computer spreadsheet.

29. The final level of management is how individual farmers use water on their farms. The agriculturalists should help farmers to develop their own water management plan, if necessary by advising on adopting a different crop with lower water demand or higher value.

Canal maintenance plans

30. There is a lot of room for improvement of the canal maintenance plans.

    1) *The plans should clearly include a rota showing which parts of the primary and secondary canals are to be cleaned and when based on experience of which sections silt up most readily.*
    2) *A method should be devised so that WUGs and WUAs can produce their own maintenance plans without depending on project staff to produce a computer spreadsheet.*

Maps

31. In order to facilitate the development of the water management and canal maintenance plans, under SWIM 2, maps of each WUG command area showing all off-takes and dividers are

[14] see footnote on page 20

made at a scale of 1:5,000 to facilitate the development of detailed WUG level water management and canal maintenance plans.

District Steering Committees

32. The SWIM project management has initiated District Steering Committees to help solve operational problems that arose during project start up. These have been useful, especially in the absence of the Sub-Basin Working Group. However, in SWIM 2, once the Sub-Basin Working Group (and then the Sub-Basin council) has been established, the District Steering Committees should be phased out and local problems solved with the governor and other actors on an ad hoc basis.

Infrastructure improvement

Cost-benefit analyses

33. It has been difficult to assess whether or not a particular infrastructure improvement project is economically worthwhile. A cost-benefit analysis for engineering works should be undertaken before work starts and that steps are taken to provide the necessary training to staff. Perhaps the Concern Senior Engineer who will visit Afghanistan in 2011 could include this in his training programme.

Participatory approach

34. SWIM has adopted a participatory approach which has contributed to the success of the project despite the difficulties. However, in deciding about the design of engineering works, engineering and economic considerations should be given priority over community demands.

Testing of materials

35. The consultant has grave concerns about the quality of the gabions being used by the project. It is recommended that project staff submit samples of engineering inputs to a testing laboratory, especially gabions but also cement and other materials for testing according to international standards. Ideally this should be done before committing Concern to a large purchase from a new supplier.

Design procedures and documentation

36. The design procedures and documentation are poor and should be improved during phase 2. It is recommended that during the training to be provided by the Concern Senior Engineer in 2011, one or more standard design templates (electronic, not a paper form, so that sections can expand as necessary) should be developed following something like the following scheme:

> ***Section 1: Background to the project****. Describe the process by which the community made the proposal to Concern. What problems does the project address? What will be the result? Provide details of the participatory design process including all dates and who attended. How many beneficiaries will there be and what is the area land for which irrigation will be improved. There should be a cost-benefit analysis and a calculation of the Internal Rate of Return for the proposed scheme.*
>
> ***Section 2. An analysis of the hydraulics of the situation****. Give estimated flows in primary and secondary canals before and after the project and at different seasons. These should include some actual measurements in the field. Provide an estimation of reduced water losses to seepage (if any). Estimate any increases in irrigation efficiency, and / or water management. For example state by how much water lost will be less than before the project and any increases in frequency or duration of irrigation to beneficiaries. Provide a sketch of the proposed solution. Show hydraulic calculations before and after the project*
>
> ***Section 3. Detailed drawings of construction.*** *These should be produced only after the project manager is satisfied that the project is not only supported by the community but that it makes engineering and economic sense.*
>
> ***Section 4. Bill of Quantities***
>
> ***Section 5. Signed approval from WUA / WUG committee.***

37. The final design of all the hydraulic structures, including gabion works, should be validated by the ARBP TA (and later, the P-ARBP TA) before proceeding.

38. Hydraulic structures in wide rivers with unstable beds should not be built by the SWIM 2 project
39. In order to limit the level of complexity of designs attempted by SWIM engineers, the cost of a package of irrigation structures should not be above €10,000 and the maximum cost of a single structure should not exceed €5,000[15].

Seepage from canals

40. The endline survey indicates large differences between the upstream and downstream flow rates in secondary canals. This could be due to seepage from the canals. The reasons for the large differences between upstream flow and downstream flow during December when there is little irrigation going on should be investigated. It is recommended that areas that are waterlogged and areas that are salt affected as a result of high water tables are mapped and monitored.

Agriculture and agricultural inputs

SRI

41. The System of Rice Intensification (SRI) has been proposed for downstream farmers by project staff but no training in the method has yet been provided. Training and demonstration is a priority for phase 2.

Improved varieties and practices

42. In phase 2, Farmer based trials of a range of innovative agricultural practices and trials of improved (and accessible) crop varieties should be undertaken in farmers' fields, preferably with the support participation of an irrigation agronomist from the MAIL to ensure sustainability.

Sources of seed

43. Farmers frequently complained about the lack of access to improved varieties (one rice variety from Iran was mentioned) and other inputs. Some farmers suggested that it could be possible to grow improved varieties (of rice) locally and this should be given serious consideration during phase 2.

    Alternatively the possibility of the WUA acting as a cooperative for purchase of inputs such as seed should be pursued.

Training

Materials

44. Pictures of men with brief cases and Western men arguing are not easily identified with. The training materials illustrations (pictorial and verbal) should be modified to reflect local customs

Topics

45. Training in SWIM 2 should include financial management and water fee determination.
46. Awareness about the Water Law among group members is weak and it is recommended that training in the implications of the Water Law is provided in the SWIM 2 project.

Relationships with government

47. A greater effort should be made in phase 2 to include MAIL staff in project implementation, not just in monitoring activities.
48. Local government is not generally perceived by project staff as a "partner" and this should be remedied in phase 2.
49. Concern should consider what its policy should be if project staff become aware of illegal or corrupt practices by government or other actors that impinge on the project objectives (such as land grabbing, illegal logging).

[15] from ARBP MTE

Visibility

50. There are very few signboards indicating the source of funding. Sometimes this is because of security but it is not always the case. There should be increased attention to signage in SWIM 2 and preference should be given to concrete plinths with inscriptions carved in stone (preferably marble).

HAP standards

51. It is suggested that an audio-visual presentation on Concern values should be prepared, translated into Dari and shown to WUA and WUG committees.

52. A system for recording telephone, verbal and written complaints should be developed.

Consultancies

53. In the absence of more qualified local staff, it is recommended that SWIM 2 plan to have consultants visit each year, particularly in civil engineering, irrigation management and water use, and institutional development.

54. The consultant on irrigation management (an agricultural engineer, not a civil engineer) should visit the second phase of the project at least once a year to help staff develop the manual on efficient irrigation management as proposed under phase 1 and to help refine the water management and canal maintenance plans.

55. The TORs for the Concern Senior Engineer should include the following:

- visit and comment on the civil engineering testing laboratory(ies) in Kabul;
- provide training for all engineering staff should be provided to familiarise them with engineering standards with practical field work. The training should be based on the engineering standards already developed by P-ARBP and which accompany this report as Annex 1 (see paragraph 35);
- train engineers to improve their design procedures and knowledge of hydraulics. The P-ARBP design procedures that should be adopted are referred to above (paragraph 36);
- visit to project sites and comment on the design of the more complex structures.

Partnerships

56. The growing insecurity brought about difficulties with the partnership with GAA. However there were extenuating circumstances. In future, partnerships should be entered into with more caution. It is recommended that a careful analysis of the possible risks should be undertaken both jointly and separately by the potential partners. Questions that need to be asked include the following:

1) *How are security decisions arrived at and what will happen if the perceptions of the partners' management about level of security differ when the security situation changes?*
2) *Have each partner carefully assessed all their costs, including overheads?*
3) *Does each partner really have the capacity to provide the services they say they will provide?*
4) *Do partners share a common approach and what added benefits will the partnership deliver?*
5) *Are the project management structures and lines of command clear and acceptable to both partners?*
6) *To what extent will senior staff from different partners have authority over the other partner's staff?*
7) *Have the partners agreed to share job descriptions and requirements before recruiting?*
8) *Are differences in the salaries and benefits of national and international staff acceptable or will the cause friction and jealousy?*
9) *Is there complete agreement about where any international staff will be based taking into consideration the difficulties with recruiting key staff and implications for the project, other partners and budget expenditure?*
10) *Are both partners in complete agreement with the project proposal, strategies to be adopted, the budget and the logical framework?*
11) *Is there compatibility between the partners on the ethos, crossing themes and other key tenets that will guide the project?*

12) *Is there agreement over which organization will take the lead in delivering the project and which will provide support (such as training and technical expertise? Situations in which both organizations have a full complement of staff in the same communities should be avoided in order to prevent clashes over management and increased overhead costs.*
13) *Have the lines of communication, key responsibilities for donor reporting, representation to other organisations and media, all been agreed?*

Appendix 1. Terms of reference

(Extract)

Evaluation Objectives and focus

The overall objective of the evaluation is to assess the degree to which the Social Water and Integrated Management (SWIM) project' met the objectives as outlined in the programme proposal's narrative and log frame and to extract key lessons/recommendations to enhance the impact of future follow up consolidation phase by Concern.

More specifically the evaluation will assess/determine:

- progress made towards the achievement of results at the outcome and output levels
- the immediate impacts resulting from the project
- the degree to which the programme meaningfully targeted the vulnerable and poor and assess the scope of the internal complaints mechanism
- the technical soundness as well as relevance and appropriateness of interventions to the context
- the efficiency of the relationship between project costs and results
- the effectiveness of the programme in attaining its stated objectives
- the degree of beneficiary and stakeholder participation in the programme cycle
- respect for and adherence to the guidelines and regulations of EC
- the performance in terms of sustainability of interventions
- the connectedness of this project with other similar initiatives in Takhar Province
- the contribution towards the integration of cross cutting issues (esp. equality and gender and DRR)
- project's fit with the Concern-Afghanistan Strategic Plan (2009-2013)
- the major lessons learnt that need to be taken forward into the future programming

Methodology

- Documentation review e.g. proposal, progress reports, case studies, EC monitoring and evaluation reports, existing data etc.;
- Field visits and meetings with Water User Associations and concerned local (District) government representatives;
- Discussion / meetings / workshops with the project staff;
- Discussions with ARBP-TA / EC representatives;
- Debriefing with the Country Director, Assistant country Director and key project team members.

Duration

The consultant will complete the work over a period of twenty eight (28) days as outlined in the table below:

Activity	No. of Days
Review of documents (proposal, reports, project MIS, *etc*.)	3
Development of evaluation methodology and planning) (survey, formats, meetings, workshops etc)	2
Field visits – (visiting small infrastructures, meetings with WUA and WUGs, data collection)	4
Meeting / workshop with the project team	2
Meetings with local government representatives	2
Meeting with ARBP-TA representatives	1
Meeting with EC representatives (if possible)	1
Developing debriefing note	1
Debriefing with key staff members	1
Draft report	3
Final report	2
Travel time (actual)	6
Total	**28**

Deliverables

In accordance with agreed standards, the consultant will prepare an evaluation report. This report will be prepared in English, submitted in both hard and soft form. The main text of report (excluding appendices) should not be more than 30 pages single spaced, font 10 Arial. The contents of the report will include at a minimum:

- Executive Summary (max 4 pages);
- Context & Introduction;
- Evaluation methodology and limitations;
- Findings regarding:
- achievement of objectives, delivery of outputs and impacts;
- the relevance, appropriateness, effectiveness and sustainability;
- Conclusions and Recommendations for follow-on consolidation phase of SWIM;
- Appendices including:
- Terms of reference,
- Data collection tools,
- List of documents reviewed,
- List of person interviewed and sites visited etc..

A draft evaluation report will be submitted for review by Concern by the 30th December 2010. Final report will be submitted by the 15th January 2011.

Reporting Line

Consultant will report to the Assistant Country Director- Programme and liaise closely with Programme Coordinator and other key programme staff.

Consultant Expertise

- Post-graduate degree in development, livelihood security, agriculture or related field;
- At least 10 years experience of conducting impact assessments and evaluations;
- Experience of evaluating community based irrigation projects (social water management projects);
- Previous work experience in Afghanistan, particularly in community based irrigation and development programmes;
- Familiarity with livelihood & food security related issues & knowledge of financial and economic analysis;
- Experience in developing gender sensitive evaluation methodologies;
- Good knowledge and experience of conducting surveys and statistical data analysis;
- Familiarity with EC requirements for assessments/evaluations;
- Experience in the use of participatory methodologies.

Appendix 2. Documents reviewed

1) Social Water and Integrated Management (Amu River Basin Programme) Grant Application Form Reference: EuropeAid/125953/L/ACT/AF; Budget; Logical Framework. 2007
2) SWIM Annual Reports for 2008 and 2009
3) Social Water and Integrated Management (SWIM) (Contract No. Food/2007/147-691, Reference: EuropeAid/125953/L/ACT/AF). Six Monthly Progress Report for ARBP-TA: a) Jan - Jun, 2008; b) Jul - Dec 2009; c) Jan to Jun 2010
4) Letter from Concern to Head of Finance and Contracts Section, Delegation of the European Union in Afghanistan regarding no-cost extension; SWIM Application for No-Cost Extension; Revised Logical Framework; Revised Budget
5) EC monitoring report for SWIM. Monitoring Report MR-120940.01. 04/06/2009
6) SWIM & SMILE Monthly Activity Progress Reports and consolidated report for June 2009, October 2009, October to November 2009, January to March 2010, June to July 2010,
7) SWIM & SMILE. Report of Exposure Visit to Tajikistan. 5th Feb to 14th Feb 2010.
8) Project progress. Powerpoint Presentation. June 2010.
9) Baseline Survey. Excel file
10) SWIM sub-project tracking Excel file. December 2010
11) Concern Afghanistan Strategic Plan for January 2009 - December 2013
12) Basic Training of Monitoring & Evaluation for the Programme Staff, Concern Worldwide, Afghanistan
13) Unofficial English translation of the Water Law as published in the Ministry of Justice Official Gazette No. (980), 26 April 2009
14) Progress on HAP Standard 2010. Concern Worldwide, Afghanistan
15) Terms of Reference Date 17th September 2009 - HAP Standard Baseline Analysis and Workshop. Concern Afghanistan
16) Concern Afghanistan HAP Baseline: Documents to Collate
17) HAP 2007 Standard in Humanitarian Accountability and Quality Management. Adopted by HAP on 30
18) January 2007. Humanitarian Accountability Partnership International.
19) Baseline Report of HAP 2007 Standard. Concern Afghanistan. December 2009
20) ARBP Mid-term evaluation. June 2009. AGRER Consortium.
21) Regulation on Water Users' Associations. Draft. December 2005
22) Terms of Reference for Per Andersen – ERT Senior Engineer, March 2011
23) Training modules for SWIM. Translations

Appendix 3. Itinerary

Day	Date	Activities
Tuesday,	November 30	Coach - Stansted to Heathrow, flight to Dubai
Wednesday,	December 1	Onward flight to Kabul
Thursday,	December 2	Reading project documents. Prepare questionnaires for semi-structured interviews
Friday,	December 3	Reading project documents; meeting with country director
Saturday,	December 4	Flight to Faizabad – cancelled . Meet with country director. Reading project documents, start report.
Sunday,	December 5	Flight to Faizabad – cancelled – reading project documents, report writing
Monday,	December 6	Flight to Faizabad – cancelled – reading project documents, report writing
Tuesday,	December 7	Reading project documents, report writing
Wednesday,	December 8	Flight to Faizabad – cancelled – reading project documents, report writing
Thursday,	December 9	Flight to Faizabad. Meet with ARBP Team Leader. Travel to Rustaq by road. Familiarisation with project. Planning meeting for field visits.
Friday,	December 10	Meet with NRM advisor and Hamayoon to discuss M&E, progress, impact, etc.
Saturday,	December 11	Field visit to Sar-e-Rustaq canal, visit farmers, WUG, WUA, SIPs[16]
Sunday,	December 12	Field visit to Khawaja Baudin district. Visit SIPs at Nawabad Jangakalan and Qurloq. Meeting with Jangakalan WUA and members of Dawazakan WUG. Interview farmers.
Monday,	December 13	Field visit to Yangi Qala district. See Nanabad Kaftar Ali diversion structure. Meet with Chenar Kaftar Ali WUG. Interview farmers. Meet with District Governor of Yangi Qala
Tuesday,	December 14	Meeting with Senior Programme Advisor & senior SWIM project staff; workshop to discuss findings
Wednesday,	December 15	Discussion with Deputy District Governor – Rustaq. Field visit to Khailani Ha, meet with WUG and some members of WUA. Field visit to Gogari canal, meet with farmers and WUA, inspect SIPs
Thursday,	December 16	Data analysis and map preparation. Visit to spring sources of Gogari canal, inspect intake and gabion wall.
Friday,	December 17	Inspect gabion protection walls and new covered canal at Sar e Rustaq canal. Travel to Faizabad and meeting with ARBP staff.
Saturday,	December 18	Travel Faizabad to Kabul
Sunday,	December 19	Water User Association registration meeting at MEW, Kabul. Meetings with Senior Programmes Advisor and Country Director
Monday,	December 20	Debriefing meeting with Country Director
Tuesday,	December 21	Fly to Dubai, Onward flight to Manchester and by road to Anglesey
Thursday,	December 23	Analysis and report writing
Monday,	December 27	Analysis and report writing
Tuesday,	December 28	Analysis and report writing
Thursday,	December 30	Analysis and report writing, Submit draft report to Kabul and Dublin offices
Thursday,	January 6	Revise report after comments
Friday,	January 8	Revise report after comments and submit final version

[16] small infrastructure projects

Appendix 4. People met

Ms Fiona Mclysaght	Country Director, Concern
Pralhad Shirsath	Project Manager SWIM & SMILE[17]
Said Wais	Senior Programme Engineer
Hamayoon	Area manager, Farqar and Warsaj
Enamullah	Programme Coordinator
Shirin Agha Samim	District Manager (Area manager from Jan 11)
Jamila Jan	Community Mobilize (female)
Abdul Jabar	Community Mobilzer
Abdul Latif	Community Mobilzer (SMILE)
Taza Gul	Community Mobilzer (female)
Laila Ahmadi	Community Mobilzer (female, SMILE)
Mirza Wali	Community Mobilzer
Waliullah	Community Mobilzer (SMILE)
Howaida	Community Mobilzer (SMILE)
Burhanuddin	Agricultural Extensionist
Homayoon Hamidi	Agriculture Extensionist (SMILE)
Nabiullah Moti	Agriculture Extensionist (SMILE)
Dr Georg Petersen	Team Leader and Social Water Management Advisor, ARBP, Faizabad
Michael Ludwig	Construction Supervisor, ARBP
Purna Kumar Shrestha	Regional Hydraulic Engineer, ARBP
Jelle Beekma	Team Leader, P-ARBP
Masimo Bonanini	Desk Officer (Water) European Delegation
Moh. Naim	Deputy District Governor, Rustaq
Abdul Dayan	Governor of Yangi Qala District
Committee and Members of Sar-e-Rustaq WUA	
Committee and Members of Chenar Kaftar Ali WUG	
Committee and Members of Jangakalan WUA	
Committee and Members of Dawazakan WUG	
Committee and Members of Khailani Ha WUG	
Committee and Members of Gogari WUA	

[17] and Senior Programme Advisor since Sept 2010

Appendix 5. ARBP Nested Logical Framework for Social Water Management

Objective	Indicators	Sources of Verification	Assumptions	Comments
Specific Purpose				
3: The social management of the selected irrigation schemes is improved.	Water distribution management, quality and equity is improved	Baseline and final survey		No given measurable and time bounded target
Expected Results				
3.1: Community use of irrigation canal water and social water management of water for irrigation is understood	Participatory development of research report	Record of community meetings		No measurable and time bounded target
3.2: Community and Mirabs take "ownership" of the rehabilitated and improved canal	Before work commences, communities are familiar with, accept the proposed works, including contractors activities and timing that affect the community particularly disruption of irrigation water flow and understand the potential benefits	Written record of community meeting for each canal scheme that accepts and takes "ownership" of the proposed works.	Communities cooperate with MEW, TA and contractor and permit the works to be executed	No given measurable and time bounded target
3.3: Communities group decision making and planning processes and capacity related to irrigation water use are improved and more transparent	Communities form viable WUG/WUA	Meeting minutes		
	Canal schemes use a written or diagrammed water distribution plan	Community water distribution plan	Communities understand potential benefits and are willing to cooperate with ARBP	Indicator could be number of scheme maps produced and distributed
	Communities prepare a development plan	Community development plan		No given measurable and time bounded target
	Proportion of canal water diverted to non-agricultural use without being returned to canal is reduced	Water flow measurements		No given measurable and time bounded target
3.4: Communities understand and participate in River Basin Institutions	Communities select representatives	Community meetings		No given measurable and time bounded target
3.5: Operation and maintenance of canal schemes is improved	Communities contribute to development of, are familiar with and understand the required O&M procedures	Written record of community meeting for each canal scheme that accepts the O&M requirements.		No given measurable and time bounded target
3.6: Vulnerable groups are not disadvantaged by the intervention	Equivalent income from labour of vulnerable (poor, marginalised, landless, females, female heads of household) households does not decrease	Baseline & final household survey of selected landless poor households with counter factual from similar canal scheme	Target groups willing to participate	No given measurable and time bounded target
3.7: Communities adopt new crops and cropping patterns	Number of successful new methods, techniques, crops, cropping patterns, water distribution demonstrated in field tests/demonstrations that are adopted by participants	Project reports		No given measurable and time bounded target

Appendix 6. Revised Logical Framework for SWIM

	Intervention logic	Objectively verifiable indicators of achievement	Sources and means of verification	Assumptions
Overall objective	To foster poverty alleviation through improved food security	Decreased proportion of rural population below minimum level of dietary energy consumption	- Monitoring reports against MDGs and ANDS; - NRVA and nutritional status reports;	
Specific Objective	Water users improve the social and technical management of selected irrigation schemes, including representation at River (sub) Basin level.	User Satisfaction Index (sample survey of water users), measured at baseline, mid- term and final, of adequate, reliable and equitable availability of water	Project final evaluation, Surveys	No regional or country-level conflict interrupts the work of NGOs in the north of Afghanistan on development projects Other programmes under ARBP are implemented successfully
		Sub-basin council representation		
Expected Results	ER1: Improved water management institutions at the local and sub-basin level	1.1: Ratio of number of members of registered WUG / WUA with bylaws to total number water users	'- water utilization plans - membership lists	No Droughts or other natural disasters negatively influencing production Water Law and other policies do not get approved or revoked leading to diversion from River Basin Approach Change in government officials resulting in dis function of council
		1.2: User Satisfaction Index (sample survey of water users) for WUG / WUA based on, for example, - regularity of meetings - reports and ability to verify reports from the operators (Mirabs) - financial arrangement	- by laws of the WUAs and WUGS - membership lists - minutes of meetings - minutes of meetings of steering committee and Basin Councils WUA/WUG reports / documents WUA/WUG reports / documents	
		1.3: Number of actions agreed in WUA meetings and successfully implemented	WUA reports / documents	
	ER 2: Physical water management infrastructure improvement plans proposed and adapted to needs of water users	2.1: Stakeholders written approval of adapted infrastructure plans	WUA/WUG reports / plans / documents Statements of community members Records of WUAs	Mirab and other traditional water manager see advantages of the proposed water management Cooperation of Mirab and other traditional water managers
	ER 3: Water use management plans adopted and implemented	3.1: Water management plans codified, monitored and updated by water users	WUA/WUG reports / plans / documents	
		3.2: Ratio of tail to head canal water flow in l/sec/ha	Baseline and final survey Water management plans Measurement records	

	Intervention logic	Objectively verifiable indicators of achievement	Sources and means of verification	Assumptions
		3.3: Cropped area in tail in each season	Water use plans, 'baseline data from crop inventory Final report Farmers Field School Plans	
	ER 4: Irrigation infrastructure maintenance plans adopted and implemented by water users	4.1: Checklists and schedules for regular and periodic maintenance in-place and implemented	Water sharing arrangements Management plans	No un-resolvable conflicts obstructing cooperation between communities
		4.2: Proportion of reported damage repaired within agreed time	WUA/WUG reports / plans / documents	Cooperation of Mirab and other traditional water managers
Activities	***ER1: Improved water management institutions at the local and sub-basin level:*** 1) Identification of Focus Communities 2) Community mobilization 3) Establishment of water users groups 4) Establishment of Water users associations 5) Writing of bylaws 6) Organizational capacity building of WUAs 7) Establishment of steering committee 8) Regular steering committee meetings	Project Manager Irrigation Engineer Community Facilitators Agriculturists Engineers Stationary for meetings Support staff Office and equipment Vehicles		The government continues to allow NGOs to work freely No regional or country-level conflict interrupts the work of NGOs in the nort of Afghanistan on development projects Other programmes under ARBP are implemented successfully
	ER 2: Physical water management infrastructure improvement plans proposed and adapted to needs of water users: 9) GIS mapping of canals and other water resources 10) Crop inventory 11) Water resource assessment 12) Study current traditional arrangements and water needs at community level 13) Identification of canal improvement areas. 14) Participatory technology development for infrastructural improvements 15) Small scale infrastructure			
	ER 3: Water use management plans adopted and implemented: 16) Development of improved cropping patterns and rotations			

	Intervention logic	Objectively verifiable indicators of achievement	Sources and means of verification	Assumptions
	17) Participatory development of water sharing arrangements and payment at WUG and WUA (canal) level 18) Formulation of water utilization plans on WUG and WUA (canal) level			
	ER 4: Irrigation infrastructure maintenance plans adopted and implemented by water users: 19) Capacity building of government officials in Social Water Management and community based water schemes 20) Capacity building of WUG and WUA members and government officials on improved canal management 21) Training on improved crop production 22) Farmer field school / trial farm establishment 23) Exchange visits 24) Participatory monitoring and evaluation 25) Publications/Manuals			

Appendix 7. Example of Water User Association Bylaws

Article 1: water is an important and vital element that God has created for the life and survival of humans and [all] living beings.

Article 2: use of water is a natural and legal right of all creatures and belongs to the public.

Article 3: the method of water usage is different according to climatic and environmental conditions.

Article 4: [current] management of water in the canals is basic and non-technical method so irrigation systems must be changed to mechanization methods.

Chapter one

Water is an important element

Article 5: source of water is belonging to public and dependent on the government.

Article 6: the original sources of the water used [for irrigation] is springs above the villages.

Article 7: most of the canals [provide water to] different villages.

Chapter two

Usage of canal

Article 8: the canal is digging by communities/ farmers and villages and divided by several branches/stream that connected to the main canal.

Article 9: the canal has following features: the sanctum of canal is 1 up to 1.5 m the area of canal is 4 km

Article 10: the sanctum of canal is from the source of canal up to end of canal that includes 1.5 m and two side of this canal is belongs to the people that use water of this canal.

Article 11: the tension of canal is not valid to plant the fruitful and non fruitful trees.

Article 12: the plants of trees around the canal are perforce by the social institutes and people who are belong to canal. It is use for the repairing of canal by consult of water user committee and elected council.

Chapter three

Water supply regulator

Article 13: a person is selected in the free election by the people of villages and farmers for distribution and regulation of water among water user and farmers, that person is called water regulator.

Article 14: the water leader (Mirab) has following duty and responsibility:

- he should take guidance from the user of canal water;
- he is doing his work statutory law of council;
- he distributes the water among the user of water justly;
- if natural occurrences that will damage the canal automatically inform the member of council.

The water leader salary is belonging to annul meeting.

Any water leader (Mirab) needs a person that called assistant of water leader (Mirab).

If struggle has occurred among the farmers, the council/Committee do resolves it.

The right of expenditures and debit of canal is belonging to council/committee

The income of canal like pecuniary fine that take from offenders farmers belong to council's committee/ cashier. Any person without of water leader take the water he must give the suitable fine.

Water leader (mirab) must debit the monthly meeting to the council/committee member. If he offends from the council/committee recipe, he change and another person will be selected

Chapter four

Water system and water right

Article 15: for the good distribution of water from the canal to all of stream/canals coordinate the watering area accordingly.

Article 16: for any internal sub-stream/canal of watering space needs G.I.S Maps. The any users water right registration by the council and cooperator I.G.O.

Article 17: the water user Groups are worthy the right of water as following:

- land owners (farmers).
- garden owners
- animals owners.
- when they want to form fish farms
- establishment of small fabrics.

Article 18: the gardeners watering their gardens once a week.

Article 19: all Water User Groups have responsibility of their canal maintenance and cleaning of their canals several times during the year.

Chapter five

Formation of an Association

Article 20: the association is forming based on every canal by support of NGOs and Government

- the Association has at least 7members and maximum 10 .it is contemplated user of canal's villages;
- the member of association have monthly and annual meeting;
- the meeting of Association is highest sources of authority and important in the association.

Chapter of six:

Qualification of association members

Article 21: every person who wants to be member of association has following features:

- to be Afghan and have the nationality of the country
- must completed the age of 18.
- must be resident of the village canal
- he/she will be honest and have a good profile.
- must not have any crime backgrounds.

Article 22: the Council/Association to be selected through selection from cabinet such as

- Head of assistant,
- Secretary
- Cashier.

The Water User Association is selecting their leader members among themselves – that they manage the association from their affairs and also in additional of leadership members they select conflict resolution committee, mirabs, based on canals that they can manage their water well on their society

Chapter seven

The Beneficiaries should pay tax to the government

.

Water User Group are this : farmers, garden owners, owners of mills, water electronic machines (MHP), fish farms, all the user of water in the society

Article 23: taking the tax is as per the Afghanistan tax law.

Chapter eight

Benefits

Article 24: receiving of Tax and fine through cash is one of the NGOs and Partners for developing budget income to association

Land owners in the day	(	) price of water by m^3 (		) Afghani.
Mill owners in the day	(	) price of water by m^3 (		) Afghani.
Electric MHP generators in the day	(	) price of water by m^3 (		) Afghani.
Fish farms in the day	(	) price of water by m^3 (		) Afghani.
Animals owners in day	(	) price of water by m^3 (		) Afghani.

The income which receive from expense of Water is will be benefited to the government capital and water user association and for the rebuilding of canals, in takes, in retaining walls etc will be spent

Appendix 8. Summary of Water User Associations and Infrastructure work

	Canal													Total No.
	Ishan Abad	**Qol Abad**	**Kafter Ali**	**Kojabuddin Main**	**Qroldi**	**Lala Guzar**	**Katok Jar**	**Janga Taghan**	**Darqad Main**	**Qara Tepa**	**Qaghni**	**Sarust aq**	**Gogari**	**13**
Alternative spellings - canals	Eshanabad	Qulabad	Kaftar Ali, Kaftari Ali	Khawaja Baudin, Khwaja Bahawadin Khaja bahauddin	Karaldi, Qurildi, Qirildi	Lalaguzar	Katakjar, Katukjar	Jagatagan, Jangataghan Gangatghan	Darqad	Qaratappa, Qaratapa Qaratap	Qazani	Shahar -e- Rustaq Sar e Rustaq	Gozari	
District	Yangi Qala			Kojabuddin					Darqad			Rustaq		**4**
Alternative spellings - districts	Yangiqala			Khawaja Baudin, Khwaja Bahawadin										
No. of WUGs	6	11	13	4	4	4	5	5	7	2	2	1	7	**71**
WUA Name	**Ishan Abad**	**Qol Abad**	**Kafter Ali**	**Main Canal**	**Qroldi**	**Lala Guzar**	**Katokjar**	**Janga Taghan**	**Darqad Main**	**Qara Tepa**	**Qaghni**	**Sa rustaq**	**Gogari**	**13**
Infrastructure projects:														
Off-takes	4	5 (5)	6 (3)	4 (1)	3 (2)	3 (1)	3	2 (1)	8	4	2 (1)	1	10	**56 (14)**
Culverts	4	0	0	2	0	0	3 (2)	1	1 (1)	0	0	0	4	**14 (3)**
Aquaduct	0	1 (1)	0	0	1	1	2	2 (2)	0	1	1	0	0	**9 (3)**
Drainage ditch	0	1	0	1	1	1	1	1	0	0	0	0	0	**6**
Concrete Retaining Wall	0	0	2 (1)	0	0	1	0	0	0	1	0	0	0	**4 (1)**
Overflow spillway	0	0	0	0	1	0	0	0	2 (1)	0	0	0	0	**3 (1)**
Divider	0	0	1	0	0	0	0	0	0	0	0	2	0	**3**
Covered canal	0	0	0	0	0	0	0	0	0	0	0	3 (2)	0	**3 (2)**
Gabion retaining wall	0	0	0	0	0	0	0	0	0	0	0	2	0	**2**

Note: figures in brackets refer to the number of structures still under construction during the evaluation

Appendix 9. Details of Water User Associations and Water User Groups

Name of Water User Association	No. of WUAC members		Name of Water User Group	Number of household in village	Number of farmers in village	No. of farmers engage in share cropping	WUGC members	
	Men	Woman					Men	Woman
Ishan Abad	18	0	Safi Haa-e- Jangle	77	57	2	4	0
			Qandari Haa (Musa kahn)	105	89	11	4	0
			Ishan Abad	94	66	0	3	1
			Hassan Guzar	66	44	4	3	1
			Erem Jer	73	33	6	4	0
			Buria Baaf	106	50	7	3	1
			Booz Eshan Abad	36	24	6	3	1
			Araba	49	31	8	4	0
Jangataghan	18	0	Nowabad	32	30	0	4	0
			Larkhabi	38	14	19	3	1
			Laqai Qushlaq	45	18	12	3	1
			Jangataghan	77	25	50	3	1
			Darwazakan	67	35	26	3	1
Kaftar Ali	20	2	Toop khana Kaftar Ali	175	50	15	3	1
			Tapa Sayeda	49	6	8	3	1
			Sokhi Kaftar Ali	177	1	8	4	0
			Safi Haa	156	79	10	4	0
			Omer Khel	203	144	20	3	1
			Now Abad Kaftar Ali	35	12	9	3	1
			Hazar Qishlaq	197	33	10	4	0
			Haji Shamsudin	19	1	2	4	0
			Chenar Kaftar Ali	245	83	43	3	1
			Chakari Kaftar Ali	187	87	20	3	1
			Aruq Qushlaq	380	136	35	3	1
			Allaouddine	104	70	20	3	1
			Alla Uddin-e-Omer Khel	54	35	8	4	0
			Afghania	215	138	29	4	0
Katokjar	17	0	Sojaani	207	82	35	3	1
			Shortogahi	151	34	20	4	0
			Moghul Qushlaq	301	110	28	4	0
			Katokjar	681	200	150	3	1
			Chich Ka	210	150	50	3	1
Khoja bahaoddin	10	2	Yangi Abad	200	24	86	4	0
			Wakil jalaluddin	29	29	8	4	0
			Nia Zia	280	95	15	4	0
			Markaz Shahr Khoja Bahoddin	249	141	25	4	0

Name of Water User Association	No. of WUAC members		Name of Water User Group	Number of household in village	Number of farmers in village	No. of farmers engage in share cropping	WUGC members	
	Men	Woman					Men	Woman
Lala guzar	10	1	Qarloq	89	25	30	4	0
			Mullah Barakkat	164	50	0	4	0
			Gaadi Haa	91	50	30	4	0
			Choraaq	186	20	100	3	1
Main Canal Darqad	17	2	Taheri	76	38	35	3	1
			Lala Maidan	157	157	0	4	0
			Kalafgani	178	48	10	3	1
			Jeeda Qshlaq	86	80	15	3	1
			Howza e Shar	255	255	0	3	1
			Bushqaq	91	129	0	3	1
Qaghni	14	0	Qomgozar	103	103	0	4	0
			Qaghni	213	213	0	3	1
Qara Tapa	10	0	Qara Tapa Payen	247	247	0	3	1
			Qara Tapa Bala	173	173	0	3	1
			Ghulamkhel	191	190	0	4	0
Qul Abad	14	0	Tajik Hai Erom Jar	47	33	4	3	1
			Qumandan Abib	28	19	0	4	0
			Qul Abad	77	54	13	4	0
			Omar Khill Jangle	61	50	0	4	0
			Kalafgania	34	12	2	3	1
			Husain Bai	65	40	10	4	0
			Hait Khan	14	10	0	4	0
			Haji Ghulam M	26	19	0	4	0
Qureldi	8	1	Naqil bala	28	28	0	3	1
			Momen Abaad	90	47	9	3	1
			Markaz Qreldi	106	32	26	3	1
			Konashakh	120	80	15	3	1
Sar e Rustaq	16	0	Sarustaq (left)	198	40	78	4	0
			Sarustaq (right)	185	38	70	4	0
Gogari	18	1	Khailanai	71	35	15	4	0
			Nowabad Qarabullaq	25	0	9	4	0
			Sokhta Qala	69	12	20	4	0
			Gugar (Desabz)	134	15	75	4	0
			Shakari	96	9	37	4	0
			Hazrat Shah	71	12	25	4	0
13	**190**	**9**	**71**	**9214**	**4619**	**1433**	**250**	**34**

Appendix 10. Example of a WUA water management plan

(Shaded cells show the weeks during which a particular WUG is to receive water)

Month	Week	WUG 1	WUG 2	WUG 3	WUG 4	WUG 5	WUG 6	WUG 7	WUG 8	WUG 9	WUG 10	WUG 11	WUG 12	WUG 13
		Safi Haa-e- Jangle	Nowabad	Toop khana Kaftar Ali	Sojaani	Yangi Abad	Qarloq	Taheri	Qomgozar	Qara tapa payen	Tajik Hai Erom Jar	Naqil bala	Sarustaq left	Khailanai
Jan	1													
	2													
	3													
	4													
Feb	5													
	6													
	7													
	8													
Mar	9													
	10													
	11													
	12													
Apr	13													
	14													
	15													
	16													
May	17													
	18													
	19													
	20													
Jun	21													
	22													
	23													
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Jul	25													
	26													
	27													
	28													
Aug	29													
	30													
	31													
	32													
Sep	33													
	34													
	35													
	36													
Oct	37													
	38													
	39													
	40													
Nov	41													
	42													
	43													
	44													
Dec	45													
	46													
	47													
	48													

Appendix 11. Example of WUA canal maintenance plan

Months ماه		Jan				Feb				Mar				Apr				May				Jun				Jul				Aug				Sep				Oct				Nov				Dec			
Weeks هفته		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48
Task	**Responsible people**																																															
Annual Meeting of WUAC	WUAC Leader																																															
Mirab Selection	WUG&WUAC																																															
Identification of canal areas for improvements & maintenance	WUAC																																															
Development of action Plan by each WUGC	all WUGC with Support of WUAC																																														
Cleaning and maintenance of intakes	WUG members with support of Mirabs																																														
Cleaning and maintenance of off takes	all WUGs with support from communities																																														
Repairing of canal for water leakages	WUGs																																														
De-silting of canal / canal cleaning / Hashar	all WUGs with support from communities																																														
Major repairs / Risk reduction	WUAC/WUGs																																														
Cost Estimation	WUAC and Mirabs																																														
Sharing with WUGs	Mirabs and WUAC																																														
Development of proposal	WUAC																																														
Collection of community contribution	WUGs with support from WUAC																																														
Identification of additional source of funding	WUAC with Support of Engaged NGO																																														
Procurement of materials	WUAC/WUGs/ Mirabs																																														
Community mobilization - hashar	Mirabs and WUAC																																														
Project implementation	WUAC																																														

	Months ها ماه	Jan				Feb				Mar				Apr				May				Jun				Jul				Aug				Sep				Oct				Nov				Dec			
	Weeks ها هفته	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48
Monitoring of water use	WUAC and Mirabs																																															
Monthly meetings with Mirabs	WUAC with Participation of WUGs																																															
WUAC meetings	Engaged NGOs																																														
Water fee collection	WUGs with purport from WUAC																																														
Plan and achievements sharing with communities / WUGs.	Engaged NGOs																																														
The example is for Ishan Abad WUA; No. of WUGs 8; No. of WUA members 606																																															

Appendix 12. Example of WUA canal maintenance plan

Months ماه		Jan				Feb				Mar				Apr				May				Jun				Jul				Aug				Sep				Oct				Nov				Dec			
Weeks هفته		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48
Task	**Responsible people**																																															
Annual Meeting of WUG																																																
Mirab Selection	WUA with Support of WUAC																																															
Identification of canal areas for improvements and maintenance	Mirabs																																															
Development of action Plan by each WUG	Mirabs and WUGs																																															
Cleaning and maintenance of intakes	All WUGs																																															
Cleaning and maintenance of off takes	All WUGs and Mirabs																																															
Repairing of canal for water leakages	All WUGs and Mirabs																																															
De-silting of canal / canal cleaning / Hashar	Mirabs and WUGs																																															
Major repairs / Risk reduction	Mirabs																																															
Cost Estimation	Mirabs and WUGs																																															
Sharing with WUGs	Farmers																																															
Development of proposal together with WUA	WUGs with Support from WUAC																																															
Collection of community contribution	WUGs with Support from WUAC																																															
Identification of additional source of funding	Engaged NGO and WUAC																																															
Procurement of materials	WUGs with Support from WUAC																																															
Community mobilization - hashar	Engaged NGO and WUGs/Miarbs																																															
Project implementation	WUGs with Support from WUAC																																															
Monitoring of water use	WUAC/Mirabs																																															
WUGC meetings	WUAC/Mirabs																																															
Water fee collection	WUGs with Support from WUAC																																															

Months ماہ		Jan				Feb				Mar				Apr				May				Jun				Jul				Aug				Sep				Oct				Nov				Dec			
Weeks ہفتہ		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48
Plan and achievements sharing with communities / WuG	WUAC/Mirabs																																															
Example is for the WUGs in Ishan Abad WUA																																																

Appendix 13. Preliminary results of endline survey

(Prepared by Senior Programmes Advisor)

OVIs for Expected Result 1

Groups collecting money for maintenance

Table 5. Financial data on WUGs

Number of WUGs	71
Total number of households	9214
Number of households using water for agriculture	6052
Number of WUG members who pay regular fees	6052
Ration of households paying fees to total number of households	66%
Number of WUGs that have collected money to buy construction materials for canal maintenance or improvement	71
Number of WUAs that have collected money to buy construction materials for canal maintenance or improvement	13

User Satisfaction Index

The USI was meant to be based on a "*sample survey of water users for WUG / WUA based on, for example, regularity of meetings; reports and ability to verify reports from the operators (Mirabs); financial arrangement*".

WUG meetings are held regularly. Some meet every month while others meet 3 to 6 times in a year. WUA meetings also have been regular and they meet at least once in two months.

It was found in the survey that on an average 51-52% of total WUs attend meetings of the WUGs. However, all of them feel that there should be more meetings. *Hashar* is common in all villages and above 52% people participate in it for repairing canals.

Number of actions agreed in WUA meetings and successfully implemented

Table 6. Actions agreed by WUG committees and action taken

	WUG	WUA
No. of actions or activities	299	298
Number successfully implemented	299	298
Approximate cost (Afg.)	1,254,000	1,180,000
Type of project support	Facilitation	Facilitation

OVIs for Expected Result 2

Stakeholders written approval of adapted infrastructure plans

SWIM project has implemented total 100 small infrastructure projects. All of them were agreed and approved by WUG, WUA, MoEW and Local governor. For each project writing approval and documents are existing. Projects were shared with ARBP-TA but written approval was not taken.

OVIs for Expected Result 3

Water management plans codified, monitored and updated by water users

There are water management plans for each WUG and WUA but at very primary stage. There is still a need to develop capacities of the WUGC / WUAC members in developing and using these plans. Currently most water is managed in a traditional way and seems to be working well. Water plans are developed on an annual basis and decisions about water management are made based on the water availability in canal. Water is shared among users according to the availability but not by crops needs.

Ratio of tail to head canal water flow

Table 7 below gives information for each canal about water flow. Data was collected in December 2010 and will be different in other seasons. On an average water flow at intake is 5.7 $m^3 s^{-1}$. The water is distributed at a time from different off-takes and total average water flow in off-takes is about 5.2 $m^3 s^{-1}$. There are water losses about 0.5 $m^3 s^{-1}$.

Table 7. Flow at canal start and in tail-waters in December 2010

Canal	Canal length, (km)	At intake, $m^3 s^{-1}$	Off-take 1		Off-take 2		Off-take 3		Off-take 4		Off-take 5		At tail (last off-take)	
			Dist. from intake (km)	Flow ($m^3 s^{-1}$)	Dist. from intake (km)	Flow ($m^3 s^{-1}$)	Dist. from intake (km)	Flow ($m^3 s^{-1}$)	Dist. from intake (km)	Flow ($m^3 s^{-1}$)	Dist. from intake (km)	Flow ($m^3 s^{-1}$)	Dist. from intake, (km)	Flow ($m^3 s^{-1}$)
Kaftar Ali	14	4.4	2.3	1.3	4.7	1.2	6.9	0.6	9.4	0.5	11.75	0.4	14.0	0.3
Eishan Abad	9	7.6	1.2	2.0	2.65	1.8	4.5	1.4	6.0	0.8	7.35	0.7	9.0	0.5
Qul Abad	24	7.0	4.5	2.2	8.5	1.9	1.27	1.3	16.5	0.6	20.2	0.4	24.0	0.3
Lala Quzar	12	2.6	2.5	0.7	4.6	0.5	6.4	0.4	8.1	0.3	9.8	0.3	12.0	0.2
Janga Taghan	8	2.4	1.5	0.5	2.7	0.4	4.1	0.4	5.5	0.3	6.7	0.3	8.0	0.3
Katuk Jar	18	3.9	3.0	1.0	4.2	0.8	7.3	0.7	10.1	0.6	13.8	0.4	17.3	0.3
Khoja Bahauddin Main	15	4.7	3.0	1.2	5.0	1.1	7.2	0.6	11.0	0.5	12.5	0.4	15.0	0.3
Qurelday	16	6.0	2.8	1.2	4.5	1.0	6.9	0.9	10.4	0.8	13.0	0.7	16.0	1.2
Darqad Main	26	11.5	4.5	3.2	8.8	2.8	1.355	1.9	17.45	1.0	21.45	0.9	26.07	0.7
Qara Tapa	14.5	12.0	2.4	4.5	4.5	2.5	6.45	1.8	8.9	0.9	11.2	0.8	14.0	0.7
Qaghni	5.5	10.8	1.1	2.4	1.9	2.7	2.69	1.8	3.91	0.9	4.51	0.8	4.81	0.6
Gogari	4.5	0.5	1.5	0.1	1.85	0.1	2.5	0.08	3.1	0.08	3.5	0.08	4.5	0.09
Sar-e-Rustaq	4	0.2	1.0	0.1	1.5	0.0	1.9	0.04	2.6	0.03	3.2	0.02	4.0	0.03
Average / Total	**170.5**	**5.7**	**2.41**	**1.6**	**4.26**	**1.3**	**6.39**	**0.9**	**8.69**	**0.6**	**10.69**	**0.5**	**12.97**	**0.4**

Cropped area in tail in each season

Table 8. Cropped area in each season

Canal Name	District	Length (km)	Command Area (ha)	Area irrigated in winter (ha)	Area irrigated in spring (ha)	Area irrigated in summer (ha)	Cropping intensity (%)
Kaftar Ali	Yangi Qala	14	1,420	20	710	1420	151%
Eishan Abad	Yangi Qala	9	1,106	200	600	1106	172%
Qul Abad	Yangi Qala	24	555	37	270	555	155%
Lala Quzar	Khoja Bahauddin	12	474	80	240	474	168%
Janga Taghan	Khoja Bahauddin	8	43	5	30	43	181%
Katuk Jar	Khoja Bahauddin	18	849	50	450	849	159%
Khoja Bahauddin Main	Khoja Bahauddin	15	622	90	600	622	211%
Qurelday	Khoja Bahauddin	16	684	120	500	684	191%
Darqad Main	Darqad	26	4,357	150	3000	4357	172%
Qara Tapa	Darqad	14.5	3,396	200	2845	3396	190%
Qaghni	Darqad	5.5	1,998	220	834	1998	153%
Gogari	Rustaq	4.5	807	100	507	807	175%
Sar-e-Rustaq	Rustaq	4	380	137	256	380	203%
		170.5	**16,691**	**1,409**	**10,842**	**16,691**	**173%**

OVIs for Expected Result 4

Checklists and schedules for regular and periodic maintenance in place and implemented

Out of a total of 71 WUG, 70 WUG checklists and schedules for regular and periodic maintenance of canal are in place. In total at 77 places canals were damaged during last year. All damaged were repaired by the WUGs through *hashar*. In the project, *hasher* has been a key tool in mobilizing communities and raising their contributions. Due to canal damage (basically because of floods), 66 WUG said that their crops affected from 5 to 20 %, which is low compare to the baseline situation, according to the WUs.

ANNEX 1. TECHNICAL SPECIFICATIONS USED BY P-ARBP FOR ENGINEERING WORKS

See accompanying document