



INCEPTION WORKSHOP 7-8TH FEBRUARY 2012 AT MRRD, KABUL

Content

- 1 Project background
- 2 Official opening of project
- 3 Project expectation
- 4 Presentations of sector
- 5 Workgroups discussion and reports
- 6 Lists of participants



The Act Norwegian Ambassador G. Lochen and Hon. Minister Monsoori at the opening session..



Director, Ghulam Qader, RuWatSIP

Capacity Building and Institutional Cooperation in the field of Hydrogeology for Faryab Province, Afghanistan

The purpose of the Inception Workshop was to start the new project with an official opening, presentation of status for key sector issues and to hold work group discussions so as to identify the key issues for the project to consider.

The workshop would also provide information about the project to the different stakeholders of what the project was meant to address.

Message from the Hon. Minister Mansoori

The Honourable Minister highlighted the importance of water supply in general and in Faryab in particular where water is scarce. Learning how to implement hydrogeological survey so as to map the water sources in a province is so important for the ministry. Once we have learnt how to do the work in Faryab, we can then go on to cover the whole country with similar surveys.

The Hon Minister expressed gratitude to Norway for helping finance this important project. At the same time, the Hon. Minister welcomed NORPLAN and its experts who had arrived to assist MRRD with implementing this project.

Acting Norwegian Ambassador G. Lochen

It was with great please that to observe that this project so long delayed was now about to start. The Embassy has great expectations for the project which is important for water resource development. Norway was also proud that one of its able consulting firms was now on the ground to commence this project in partnership with local

Policy objectives and project expectations. by Director Ghulam Qader

Improve access of the rural population to 25 LPCD from 27% to 50 % in 2014

Make all villages/rural communities in the country 100% open defecation free and fully sanitized by 2020 and 50% by 2014, by empowering communities:

- Improve existing traditional latrines to become safe, hygienic and ensure user privacy
- Make new latrines as model of safe sanitation in house hold, schools and clinics
- Undertake safe disposal of solid and liquid wastes

Provide hygiene education with appropriate follow-up activities in schools, household and communities for sustained behaviour change and adoption of safe hygiene practices.

The general expectations for the project are:

- Technical expertise at national level with substantial knowledge in the field of hydrogeology study, drillings and GIS mapping
- A sustainable link on Institutional cooperation and capacity building with Norwegian water agencies.
- Development of required training manuals on hydrogeology, GIS, engineering capacities etc.
- A comprehensive GIS mapping of hydrogeology and ground water in Faryab province
- Find reliable sources of water and sustainable water supply projects for the districts in Faryab province
- And this project should be a model for replication in other provinces.

Norplan Presentation



*Team leader Dr. Svein Stoveland,
Norplan*

Norplan was presented by the team leader Dr. Stoveland, known to most from previous work in MRRD. He led the team which counted six international and two local expert consultants for the project. Norplan is a Norwegian firm with over 1800 professional staff. For more than 40 years, Norplan has been involved in over 700 project in more than 35 counties.

However, this is the first time Norplan is in Afghanistan and the whole team is fully focused of providing best assistance possible. Norplan will work closely with counterparts in MRRD, and partner with **DACAAR** for local expertise and field work capacity. Dacaaar will also provide valuable sector knowledge.. Norplan promised to do its best for a successful project implementation.

Agenda 7th February 2012 (DAY 1)

Opening session: Inception workshop

- 9:30** Welcome / purpose of workshop, Dir Qader
9:50 Hon. Minister of MRRD, Opening of workshop
10:00 Address by Hon. Ambassador of Norway
10:10 **Policies of water sector/ general project expectations, Dir, Qader**
10:25 **Norplan: Project team, Dr. Stoveland**
10:40 Tea break



Snr. Adv. M Safi covered comments on Terms of reference

Eng. M. Naeem presented Water Law and water supply technology



Technical session

- 10:55** **Water Law, Eng Naim**
11:10 **Wash policies, Dr. Naqtib**
11:25 **Comments on Terms of reference, Eng Safi**
11:40 Dir RRD, Faryab, Project expectations

Hydrogeology Issues

- 12:10** **Hydrogeology: MRRD Eng Jalil**
13:30 **Hydrogeology, Daccaar experience from Faryab, Eng. Hassan**
13:45 AGS: Information available for department, Assadullah

GIS/MIS Issues

- 13:55** GIS in MRRD, Shikib
14:10 Wells Database/GIS system , Daccaar, Eng. Jawed
14:20 MIS in MRRD and Afghanistan relevant to current project, Mr. Majidi

Training issues

- 14:35** **Training material, capabilities in MRRD, Dr. Naqib**
14:50 Training materials available, Daccaar, Dr. Sheir Ahmad
15:05 Training in Faryab, need assessment Prof. Hamid
15:20 **Water supply design and technology** , Eng. Naim
15:35 Development of towns water supplies, AUWSC, Eng. Bahir
15:45 **Experiences with desalination plants in Faryab, Prof. Hamid**
15:55 Closing ceremony. Dir. Qader



Dr. Naqib covered Wash Policy and training materials at MRRD

Hydrogeo. A. Jalil, MRRD presented hydrogeology in Afghanistan /Faryab



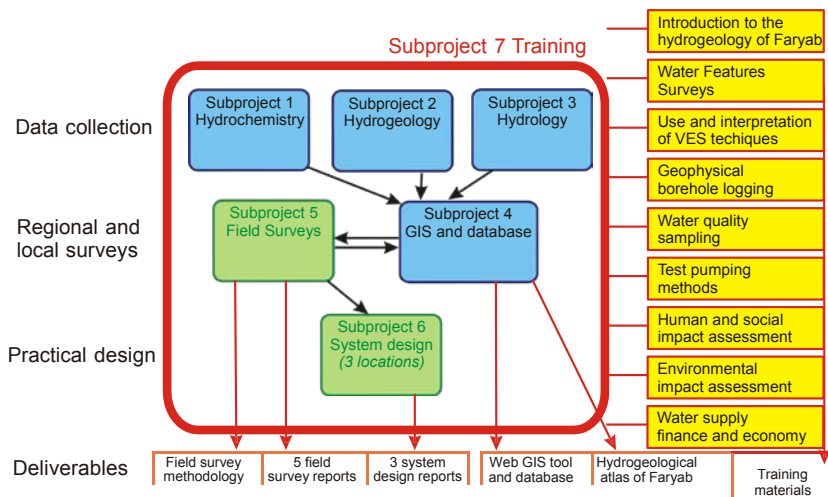
Sen. Hydrogeo.. Hassan from MRRD presented survey results from Faryab. Daccaar,

Eng Mirwais, PRRD, outlined the water supply situation in Faryab



Prof. Hamid, reported on desalination plants established as tested in Faryab under NCA project

The presentations given above and marked in "bold" can be obtained by contacting Dr. Stoveland and he can forward presentation marked above.



Norplan outlined possible ideas of how to organize the many components of the project. David Banks gave his ideas



GROUP WORK

Group work was conducted to assess whether the sector status was as outlined in the TOR or if later significant changes had been made. Four groups were arranged covering :

- Hydrogeology survey
- Training/ training material and capacity building
- GIS/MIS
- Situation in Faryab

Minutes of Hydrogeologists' Focus Group. Workshop. Kabul 8/2/12

Attending: Gisle Grepstad and David Banks (NORPLAN), hydrogeologists Assadullah (Ministry of Mines), Hassan Saffi (DACAAR), Ehsanullah (NCA), Jalil + 2 others (MRRD), Samandar (ARD/SWSS)



What should be a Hydrogeological Survey?

All participants agreed that a hydrogeological survey should commence with a desk study using existing information as much as possible. This should be supplemented by field studies at a limited number of "research" sites to fill in the "gaps" in the existing data...especially as regards the quantitative hydrogeological properties of aquifers (yield, transmissivity) and the three-dimensionality of the aquifer system.

What Information is Required during the Data Collation Phase?

- Geology
- Geomorphology
- Tectonics (base-maps exist)
- Hydrology and Meteorology
- Well, spring, karez locations
- Lithology
- Chemistry (preferably distinguished between Quaternary and Neogene aquifers)
- Water level
- Depth of well
- Yield and hydraulic properties (if available)

What Should Field Studies Consist Of?

1. Rapid survey with large coverage to collect basic data from existing wells and springs in areas with poor coverage (location, depth, EC, pH, water level, water chemistry)
2. Detailed field study in limited number (5?) localities prioritised by hydrogeologists and by needs of Province. These should include dual level pumping wells (to test both Neogene and Quaternary aquifers) and observation wells. At each site:
 - Remote sensing assessment
 - Walkover survey, geomorphologic assessment
 - Geophysical survey (VES, TDEM?)
 - Exploratory borehole(s)
 - Borehole geophysical logging
 - Pumping test
 - Water quality sampling
 - Hydrogeological impact assessment

Training Needs

- Use and (especially) interpretation of geophysical methods.
- GIS/MIS
- Water quality data management and interpretation

Minutes of Faryab Focus Group. Workshop. Kabul 8/2/12

Faryab Group:

Attending:

Eng. M. Alim Marat, Director of RRD Faryab
Eng. Asad ,Water Management Department of Faryab
Besmellah, Deputy Operation Manager, DACAAR
Dr. M. H. Hamid, National Training Expert, NORPLAN
A. Qasim, Construction Eng. ARD/SWSS
Eng. Mirwais , RRD Faryab
Eng. A. Meelik, RRD Faryab



Which areas of Faryab Province surveyed in the past?

The overall objective of any technical survey is to ascertain reliable information (a) on the status of drinking water , irrigation water and energy situation in rural habitations, and rural areas, (b) on the water sources tested for quality and quantity problem, details of existing water resources (surface and ground water) in order to conduct the technical survey, detailed planning is necessary. The planning exercise would draw up a time frame for all the activities to be completed.

Any technical survey in the past years in Faryab, conducting to solve the water supply problem for domestic use in various areas is usually the primary concern of the rural inhabitants. Any survey should be designed to identify the present needs for proper selection of water points, if any, and its capacity, delivery, distribution and potential for development, etc. Use problems, e.g. quantity, quality, timing, charges, and possible improvements should also be covered in any survey program.

From 2005 to 2010, the following organizations has been involved in Hydro- geological and Water sector survey in various districts of Faryab province: ACTED, NCA, DACAAR, INTER SAS, RRD Faryab, MEW and Ministry of Urban Development and Housing, etc.

The survey carried out by the above mentioned NGO's, technically not comprehensive; it was just at the level of primary needs to solve the water problems of communities for some period.

Based on DACAAR sites survey and database, they surveyed majority of Faryab districts, except Ghormaach and part of Kohestan districts. In survey included about 5000 water points like wells, springs and Kanda (it is a type of local dug reservoirs for storing the rainwater or runoff during the spring)

The survey included the following objectives: (to find the existence water points in mentioned areas and to select the proper sites for construction of diversion dams for irrigation purpose). The survey conducted based on questions and inquiry from local community, behold and observation. This type of survey technically has not required accuracy, therefore at the present 50% of such projects are not useable.

The DACAAR survey report for Faryab, submitted to RRD Faryab and also to MRRD Water Supply department in Kabul.

The technical survey (hydro-geological survey) at the level of Faryab province not conducted yet.

The existing problems, which identified by Faryab group:

- Lack of water for drinking
- Lack of water for irrigation
- The availability of salinity / brackish water in several district areas of Faryab

Faryab province can be divided in three following areas:

1. Mountainous area: including Gorzewan and Kohistan districts, it is difficult accessible areas, mostly on winter time the roads usually closed;
2. The areas with salinity water: Andkhoy, Khan-CharBagh, Qaram-Qol, Qorghhan and some parts of Dawlat-Abad , Sherin-Tagab, Nawae-Khoshk in Pashtun Kot and parts of Almar districts;
3. The areas with deep groundwater (more than 80m), these areas are: central parts of Almar, Qaisar and parts of PashtunKot districts.

Maimana City: The groundwater in Maimana generally is freshwater and the depth of water table in deferent parts of city is various (from 30 to 70m). At the present Maimana City without water supply network. Generally the Maimana citizen has their own dug well and it is utilizing as a water sources for domestic needs.

Other NGO's which is involve in Maiman in water sector: UNICEF (only provided drinking water for schools and clinics), NCA (mostly involve in providing the RO plants for desalination of brackish water in Andkhoy, Qaramqol, Qorghhan and Khan-CharBagh districts, also NCA providing irrigation services in Belcheragh, Pashtonkot and Khoja Subz posh districts of Faryab. From 2005 -2011, 25 desalination plants installed in 25 village areas of above districts and 4500 families benefited from the RO plants in Faryab districts.

ACTED is working through the NSP program with close cooperation with RRD Faryab.

IAM and Save the Children also partly involve in water sector and providing drinking water for Faryab communities.

In 2008 Ministry of Energy and Water (MEW), ordered by Cabinet Ministers of Afghanistan to provide drinking water for four districts of Andkhoy (Qaramqol, Qorghhan and Khan CharBagh). The project is completed by one of the Iranian Companies with the budget over USD 6 million.

The first stage of project started with hydro-geological investigation in Andkhoy, Qaramqol, Qorghhan and Khan CharBagh districts to find the sufficient aquifer to cover the drinking water needs for the local communities of mentioned districts. The results of investigation shows, that in mentioned four districts fresh water aquifers are not available. Then the company started investigation in the bank of Amu-Darya, and afterword, after the selection of water points, the water supply network implemented up to Andkhoy and centers of other three districts. The length of the network from Amu-Darya to Andkhoy about 85 km.

At the present the design of water supply networks inside of the Andkhoy districts (Qaramqol, Qorghhan and Khan-CharBagh) ongoing by MRRD Water supply department.

Ministry of Urban Development about 16 years back started design of water supply network for Maimana City. This project completed about 60% (it is included the drilling of water points, construction of reservoir 70% and installation of some pipe network), unfortunately due to the internal conflicts between the military groups in Kabul and all over the country in 1990's and lack of fund, the project not completed yet.

Minutes of Trainers' Focus Group. Workshop. Kabul 8/2/12

Attending: A. Norbø, Lennert Veijseelaar, Eng. Naeem, M.Safi. G. Qader, Dr. Tabib, Dr. Stoveland



Training needs and capacities.

Specialist hydrologists:

There are perhaps a 6-12 active specialist hydro geologists who are influential and active in the sector within their own field of expertise.

Training gap: There is a particular need to train hydro geologist in interpretation of data collected with geophysical investigations. Specialist training is required which is not locally available. International experts should be engaged for training of key hydro geologist from ministries, NGOs but also very important for Kabul University and Kabul Polytechnic to acquire enhanced expertise which can be provided to new graduates and postgraduates in Afghanistan.

Capacity to train: International expertise required.

Training for use of hydrogeological information at national level.

There is a need to exchange information about water availability in the provinces and districts at national level in different ministries, bilateral agencies, NGOs and private sector. It is particularly important that the different governmental planning agencies be trained to communicate and exchange information properly for effective planning in all rural areas for water supply.

Training gap: There is no such training provided for users of hydrogeological information at use at national level. No training material available'

Training capacity. Local training capacity to address training at national level probably not available locally.

Training in use of hydrogeological information use at provincial level.

For engineers and professional staff:

There is a need for provincial engineers to be trained how to use hydrogeological data for planning development of water supply at the provincial level. This can be professional staff from agencies , government institutions, NGOs and private sector-

Training gap: There is a clear perception that training at provincial level for engineers and professional staff is needed

Training capacity. Little available training material generally available. NCA has conducted training for this target group at provincial level in Faryab but no other agencies seems to be involved.

For technicians and artisans at provincial levels-

There is need for this group to be trained for using hydrogeological data and for planning development of water points at district/ local levels. Such training is required for government staff, NGOs as well as for private sector. There is also need for training in how to collect and treat data from new and existing water sources.

Training material. Some training material has been developed by different NGOs and government. DACAAR has for example training material covering: (example)

From the web:

- Water quality
- O&M of rural water supplies
- GIS and surveying
- Planning
- Survey by GPS
- Project cycle management
- Database
- Basic hydrogeology
- Social aspects of RWS
- Surveying
- Hygiene and sanitation
- Well construction
- Gravity flow pipe schemes

Training capacity. Training capacity available nationally for many shorter technicians courses.

Training in use of hydrogeological information use at district/local level.

There is no structured training programmes available for technical staff drilling and developing local rural water supply facilities. Most of the time there is some on the job training, but that is very limited and particularly is training for staff working in the commercial sector virtually absent.

Training material: Need to develop training material for field workers.

Training capacities: Training capacities should be available through training of trainers.

Need for training technicians in sampling for water quality testing.

For surveying of existing water points and borewells for hydrogeological information, there is a need to prepare training for such staff in line with the type of data to be collected.

It was mentioned that for Kabul, DACAAR surveyed 110 wells over two months.

For another project, DACAAR use 2 teams for 5 months to survey 5000 water points/ dug wells. If a complete survey is to be done nationwide, this can give an indication of how many staff would require training for larger assignments for hydrogeological surveys covering existing facilities.

MRRD thinks it is very important to make inventory of all wells and water supply facilities nationwide.

Training for GIS:

This is very specialised and few persons have been trained-

GIS is not a popular expertise. Some believe this is possibly because GIS is used mainly for management of assets. Once GIS is taken to be used as a planning tool, many more would probably need to be training in GIS.

Possible trainers: AIMS, IMAP (NGO)

Additional training needs or skills:

- Need to develop skills for visualization of data. Important.

Conclusion: There are clear need to assess training gaps and to develop relevant training material for different type of staff at different levels. The discussion could not be completed in the work group and further work on mapping the training sector needs and capacities would have to be covered during the planning phase of the project.

Minutes of GIS Workshop. Kabul 8/2/12

Attending: Tor Gunnar Øverli, A. Shekeb, Niaz Zaki, Wamiq Hameedi, Shuoab Zarinkhail, Pervaiz Ahmad



Current status

The workshop gave a good and overall insight into the existing GIS / MIS at MRRD, its data and resources, as well as for the sector in Afghanistan in general. MRRD and its departments are mainly operating projects, funded by different donors. Their central GIS / MIS is targeting this operation, enabling management and others to monitor and get statistics related to project status, content and other indicators.

The MRRD MIS is fed by information from the various departments in different forms, e.g. from RuWatSIP in the form of excel files. The information from RuWatSIP is provided from the UNICEF project office. There are ongoing initiatives to improve this workshop and a project is about to be tendered in this respect, funded by UNICEF.

The MRRD GIS is an ArcGIS based tool, mainly for presenting and visualizing project status and statistics from the MRRD MIS on maps, using administrative boundaries as information carrier (e.g. status on province or district).

The Afghanistan Office for Geodesy and Cartography is responsible for managing and distributing spatial data in Afghanistan. It is understood that there are a large amount of general spatial data available (e.g. topographic data, administrative boundaries, etc), however, the policies or practice of distributing the data is not fully operational. Availability of spatial data is hence mainly in general among the ministries, NGOs and other entities based on informal copying and sharing.

Different datasets that are being shared on more informal bases that were mentioned as relevant are;

- AIMS – Afghanistan Information Management Services – a dataset from 2004
- USAID project dataset – includes administrative boundaries from 2009
- Geological data from Institute of Geology
- ACSP – Afghanistan Country Sustainability Program – with data from 2010 from different sources, including ISAF, the office for geodesy and cartography and aerial imagery.

Furthermore, DACCAR has a comprehensive dataset of wells and hydrological data that is relevant.

The GIS mainly in use in Afghanistan is ESRI based – ArcGIS 9 or ArcGIS 10. Data is being shared as shape files or as ESRI geodatabase.

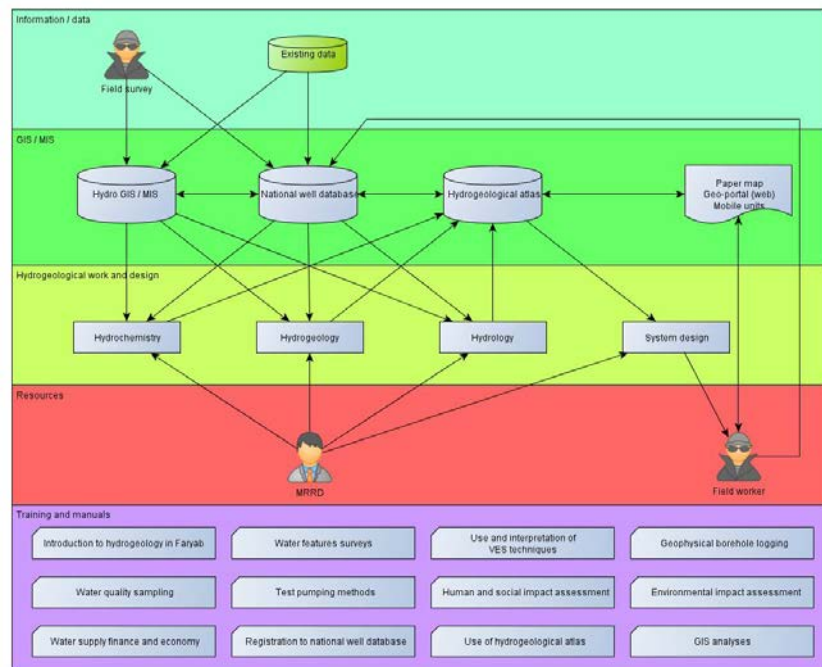
At Kabul university, students are taught in geodesy and cartography, however, practical teaching in GIS seems to be lacking in Afghanistan.

The available network infrastructure for government is based on existing physical cabling and is regarded as weak and unreliable. A fiber - cabling project is underway but it is unknown when it will be available. Various commercial providers offers mobile based high speed network.

Needs

Geographical information system (GIS) and Management information system (MIS) are generic terms and does not define its usage or relevance.

The following sketch has been designed in order to substantiate the needs for GIS / MIS under the current project;



The GIS / MIS for the current project can be divided into three main components, interacting with each other;

- A comprehensive GIS / MIS for managing hydro- and geological data, including field survey data. The tool shall include necessary topological and imagery data, supporting planning, analyses and presentation of hydrogeological conditions.

A national well / borehole database (in this project limited to Faryab region). The database shall include information about each borehole / well, including its location, status, water depth and other relevant information. Providers of data will be various NGOs, MRRD or other entities drilling for water. A data collection activity should take place during this project to ensure the database is up to date. It shall be noted that the national well / borehole database should not be an asset management system. If so is needed, it shall be provided by the entities owning or operating the wells.

A hydrogeological / water atlas. The atlas should be available for people without hydrogeological competence, supporting them in their work for finding water. Typically it will be used by field workers from the local government or from NGOs. In theory it can also be used by local staff in the villages.

The atlas should use cartographic elements and the results from field surveys and hydrogeological analyses to present likelihood of water and possible water quality at any given point.

- The atlas should be possible to have access to via paper maps or via a web interface. A version for mobile units should be assessed.

Design, implementation and operation

The three components identified above should be designed in coordination with the GIS / ICT staff of MRRD, ensuring compliance with existing systems in MRRD and the ministries' overall ICT policy.

The GIS / MIS for hydrogeological data should preferably be based on commercial-off-the-shelf software (COTS), ensuring high compliance with professional needs.

Furthermore, openness and flexibility should be prioritized, utilizing a service oriented architecture, enabling re-use in accordance with the principles of SDI (spatial data infrastructure).

The National well / bore hole database should be based on web-architecture, making it possible to manage, update, view, assess and access the data via a web interface. A generic web map portal should be the bases for this tool.

To mitigate for lack of available competent resources, comprehensive business oriented training is required. It is further assessed as preferable of the implementation and operation during the project phase is undertaken by the project organization, managed by the consultant. Close and tight cooperation between the MRRD staff and the Consultant's staff will provide on-the-job training and hence better probability for positive results.

Following the project, MRRD will take over and continue the operation of the systems, providing services to the whole "water community" in Afghanistan. The geographical extent of the project can easily be extended to include others.

It is advised a close cooperation with relevant international entities that might act as mentors, trainers and support for the information systems. It has been suggested a long term partnership with for instance relevant Norwegian professionals also in the field of GIS / mapping beyond the project timeframe can be beneficial.

Conclusions

The current use of GIS / MIS in MRRD is limited, but well functioning in respect of MRRD's general business functions. There exists a small group of professionals in Afghanistan that can be trained and utilized for the tasks.

The existing resources are good in improvising, using any components or data available for the benefits of their organization.

For hydrogeological surveys, a set of components have been identified and assessed. The structure was not clear at the workshop, however, its ideas and content was presented and no objections were identified

Next steps.

After this workshop, the Norplan team would work with MRRD and Dacaaar on finalizing the inception report. The report would include a revised work plan for the project, updated situation analysis, and revised activity schedule and budgets.. The inception report should be completed at the end of February/ beginning of March. After NORAD has approved the report, the project would move into the 6 months planning phase of the project. Finally after the planning phase the

project would move into the implementation phase for the final 22 months of the project.

Dr. Stoveland emphasised that all should note that this is a capacity building project and the outcome will focus on institutional development, training and preparation of methodologies and training materials which would improve the future planning of rural water supplies in Afghanistan using Fayab as the pilot province.

It is hoped that if the project is well prepared and implemented, further funds would be forthcoming for the implementation of the planned 3 towns which are would be developed under this project. Norplan, with all the support available locally, would do its utmost to assure that the project succeeds.

Closing of the workshop.

Engr. M. Safi closed the workshops and expressed appreciation to all participants for their active contributions though discussion and workgroups to develop a sound and good project.

#	Name	Position	Organization	Tel	E-mail	Day 1	Day 2
1	Jarullah Mansoori	Hon. Minister	MRRD				
2	Grethe Lochen Svein	Ag. Ambassador, Norway	Norwegian Embassy				
3	Stoveland	Team leader	Norplan	0796 982 085	sst@asplanviak.no	yes	yes
4	Muhammad Afzal Safi	Nat. Policy adv.	RuWatSIP	707831378	m.asafi@mrrd.gov.af	yes	yes
5	M. Naeem	Tech. Adviser	RuWatSIP	799337053	m.naeem@mrrd.gov.af	yes	yes
6	M. Jawad	Proj. Manager Sen.	WatSIP	700113003	Ja_5665@hotmail.com	yes	yes
7	M.Hassan	Hydrogeologist	DACAAR	799363992	hassan@dacaar.org	yes	yes
8	A. Shekeb	Geologist, GIS officer	MIS, MRRD	786485217	shekeb@mrrd.gov.af	yes	yes
9	Niaz Zaki	MIS Manager	MRRD	793684843	naiz.zaki@mrrd.gov.af	yes	
10	Wamiq Hameedi	Data Quality team leader	MIS, MRRD	779215540	wamiq.hameedi@mrrd.gov.af	yes	yes
11	Eng. A. Jalil	Hydrogeologist	MRRD	700690454	jalil.anwary@yahoo.com	yes	yes
12	Eng. Ah. Jawid	Hydrogeologist Deputy operations Manager	DACAAR	799186672	ajawid.k@gmail.com	yes	yes
13	Bismillah	Manager	Dacaar	799113059	dom@dacaar.org	yes	yes
14	Eng Mirwais	Eng. Operation Manager	PRRD, Faryab	0775420032		yes	yes
15	Eng. Abd. Meelik	Water supply eng.	MRRD, Faryab	799592345		yes	yes
16	E.M.Alim Marat	Direktor PRRD Dir. Irrigation,	MRRD, Faryab	799187965	tojmohamadt@gmail.com	yes	yes
17	Eng. Hayatulla	MEW	Faryab	799433708		yes	yes
18	Eng. Qasim	Construction Eng.	ARD/SWSS	799010848	2bayan@swss-af.com	yes	yes
19	Samander Popal	Construction	ARD/SWSS	788332198	spopal@swss-af.com	yes	yes

		suverv.					
20	Leendert Vijselaar	Wash Adv Training consultant	DACAAR	797011028	washadviser@dacaar.org	yes	yes
21	Asbjørn Norbo		Norplan	794222559	asnorb@online.no	yes	yes
22	Gisle K. Grepstad	Hydrogeologist	Norplan	+4792828179 , 0794222600 + 47 99257085, 0794222560	gkg@multiconsult.no	yes	yes
23	Tor Gunnar Overli	MIS/ GIS	Norplan	0794222558	torgunnar.overli@aspl anviak.no david@holymoor.co. uk	yes	yes
24	David Banks	Hydrogeologist	Norplan	0794222558	magh.ghafuri@gmail. com	yes	yes
25	Muhammad Ghafuri	Consultant	Norplan	+782813721		yes	yes
26	Essanullah Bayat	Sen. program officer, hydrogeologist	NCA	0700291752	ehsanullah.bayat@n ca.no	yes	yes
27	Eng. Mari Ebadi	Director, urban water supply	MOUDA Program Officer	0700059611	jamizada_m@yahoo. com	yes	yes
28	M. Sabir Nasiry Semund	Norw. Embassy		0798186925	sabir.nasiry@mfa.no semund.haukland@ mfa.no	yes	
29	Haukland	Norw. Embassy Director,	Head of Aid	0783538955	ghulam.qader@mrrd. gov.af	yes	
30	Ghulan Qader	RuWatSIP Consultant, training	MRRD	0705494992	hamidmh500@gmail. com	yes	yes
31	Dr. M.H. Hamid		Norplan	0700284804	naqib.taib@mrrd.gov .af	yes	yes
32	Dr. Naqib Eng. Naqibullah	Head of Hygiene Deputy team leader	WatSIP	0700073206		yes	yes
33	Abrar		Norplan	0799687667		yes	yes
34	M. Faisal	IT Adm Snr.	Watsan	0772745400	m.faisal@mrrd.gov.af ewazali.poya@gmail. com	yes	yes
35	Ewaz Ali Poya	Hydrogeologist	WATSAN	0796110069	aman.ahmad@mrrd. gov.af	yes	yes
36	Amannddin	MIS Officer	WATSAN	0786616271		yes	yes
37	Shir Ahmad	WETC deputy Manager	DACAAR	0797011015	hygedu@dacaar.org shahwali@dacaar.or g	yes	
38	Shah Wali	Head of Program	DACAAR	0799212374	zarinkhail@gmail.co m	yes	yes
39	Shuoab Zarinkhail	GIS specialist	MAIL	0778873240	pervaiz.naseri@mail.g ov.af		yes
40	Pervaiz Ahmad	Chief surveyer	MAIL	0787472191			yes
41	Dr. Eshaq	Environmental sepcialist	MAIL			yes	
42	M. Ali	Wash Policy adv.	MOPH	0706713098			yes
43	Eng Assad	Hydrogeologist	MEW, Faryab	0795102179		yes	yes
44	Assadullah Yousufi	Deputy Dir. hydrogeology	MOM	0700223553	kamgar_geo@yahoo .com		yes