



Islamic Republic of Afghanistan



Ministry of Rural Rehabilitation and Development (MRRD)

RuWatSIP Department



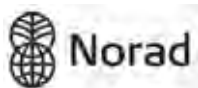
Finding water and informing where it is and how this can be used to serve rural people

PROGRESS REPORT – No.4

by NORPLAN, September 2014

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

Financed by the Norwegian Agency for Development Cooperation



Pumping test



Learning online ArcGIS



Water quality testing



Solar still testing

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1. Project progress summary.

The first half of 2014 has been affected by some major issues like the presidential election in Afghanistan, and the project mid term review with culminated in the annual project meeting between MRRD and NORAD being conducted in Oslo, Norway,

The project is moving forward at a steady pace now and some of the major activities like exploratory drilling in Faryab has started. The enclosed report gives a brief of project status and on the progress the first 6 months of 2014.

The 3 year project which covers capacity building in the field of Hydrogeology started in January 2012 was scheduled to be completed at the end of 2014. However, due to delays in the start of the project for various reasons, the project is close to one year behind schedule. In spite of the delays, the progress is now good and many of the proposed activities in the terms of reference have been completed. It is proposed that the project will continue field activities till June next year and finalize documentation and wrap up by the end of 2015.

Progress report covering period till end of July 2014.

During this reporting period, work has progressed reasonably well given that this year has been different with the event of the presidential election. The election and security issues related to the election slowed activities particularly for the periods of March, April and June.

COWI consulting engineers were engaged by NORAD to undertake the project **mid term review** in February-April 2014 of the capacity building project. The results were presented to the annual meeting in Oslo in March 2014 with MRRD, NORAD, NORPLAN present. The findings were positive. The project progress was reported as satisfactory and in some respects highly satisfactory. At that time the project expenditure were about 60% of the total grant allocation and it was concluded by the review report that the project was on schedule both in terms of the work achievements and remaining to be done. The budget unspent funds available grant framework was also expected to suffice to complete the terms of reference as far as could be expected by the end of 2015.

The project covers the topics of hydrogeology, GIS- and data management and water supply planning and design. For the different themes, methodologies had to be developed, methods tested and used followed by training and capacity building using Faryab province as pilot area.

The project progress is quite good. The activities covering hydrogeology have mostly been completed. Surveys in Faryab have been completed, samples collected, data analyzed and provincial survey report (Water Atlas) drafted. The final draft report of the water atlas for Faryab is now complete with the only exception of results to be included from the ongoing exploratory drilling. All this information and more is available in the project web. www.norplan.af

In the field of GIS and MIS, covering development of databases, cleaning of data, data entry, design of hydrogeological maps has now mostly completed recently. This GIS activity started 12 months since it was necessary to recruit a local adviser to establish a MIS GIS unit in RuWatSIP. Work is progressing reasonable well. Data bases has been established, servers and software procured and installed, staff trained, GIS desktop maps prepared and drafted. The latest is that the proposed methodologies for web based hydrogeological maps as first planned had to be simplified and adjusted to suit local expertise and capacity. This has now been done and ArcGIS on-line web utility which is freely available, has now been adapted and is progressing well. Further training and capacity building is still needed for this unit in order to render the unit sustainable.

Work with water supply design has not progressed as planned due to problems in both identification of appropriate towns and due to lack of funding for construction of service facilities. Normally, rural water supply development for community based systems require interactive dialogue with the communities agreeing on who does what when, etc. It is difficult to engage in interactive such dialog and to mobilize communities if there is no funding to see the development being realized. Therefore, focus has rather been placed on water quality testing, development and testing of water technology (solar stills and membrane filtration). Training of conceptual planning, network design, total station and water testing is in progress.

Training and capacity building is proceeding in our opinion very well. About 600 persons have attended training courses compared to the target of 800. (75% of target) Special efforts has been made to include 14% of the female participants. The participants come from many sector agencies with also enhance sector activities. DACAAR has been a very supportive partner for the project implementation. DACAAR has provided about 3 courses per year for the last two years through its wet center, while hydrogeologist specialists has provided training courses at provincial levels covering water quality testing, hydrogeology and well design and test pumping of boreholes.

Throughout, the training conducted by NORPLAN has been implemented together with senior staff from MRRD, MEW, DACAAR, Kabul University and Kabul Polytechnic. This was considered important for good translations, good discussions, tutorials and for assuring that senior staff in different organizations may continue as resource trainers after the end of the project. In this way knowledge is anchored in many sector agencies and sector experts persons.

Much of the training has been documented though photos, training videos, course presentations, tutorials, lectures and reference documents which are available ready for downloading on the project web. The web also presents supporting reference literature.

The project has actively supported the development of testing of solar stills in Afghanistan. As a result, a Norwegian M.Sc. student worked with engineers from MRRD, NCA and NORPLAN in Kabul for testing of localized models. A special develop membrane filter for use in emergency situations and developing countries has also been bought for testing at MRRD for future use.

The Terms of reference is followed quite well and the expenditure, work completed and work By July, about NOK 21 million had been used of the total NOK 34 million funding.

The Terms of reference is followed quite well and the expenditure, work completed and work to be completed seem quite balanced except one extra year is needed to complete TOR.

The progress report list the activities to be completed and propose that project can be completed covering most of the TOR and within the total budget framework provided by NORAD.

The key focus must now be to complete all the key activities and tied all so that the sustainability of the project is ensured, and that the capacities developed are utilized in the future and linked to projects and programs in support of national strategies for serving the rural water supply sector with better services by using the fragile ground water resources in an effective manner.

Annual Meeting MRRD - NORAD, March



Snapshots from events in 2014

Afghan delegation visits Oslo, March



Pumping test preparations MRRD, February



Solar stills tested on in Kabul, May



Classroom training: Hydrochemistry, June



MRRD drilling rig mobilized to Faryab, August



More photos: See web norplan.af

2. Background

According to the TOR, progress reports should be presented every 6 months . Late progress reports were presented in September 2013, and in December 2013. The report in December made a direct comparison to the progress as related to the Terms of Reference.

In February - March 2014, NORAD engaged COWI consult to undertake a mid term review for the project which was used as a basis for discussion in the Annual Meeting with NORAD in March 2014. (Oslo)

The enclosed progress report covers mainly the period of the first half of 2014 till July.

In addition to the progress report, the web www.norplan.af continuously report on project activities, on project news, hydrogeology, GIS, technology, as well as so planned training courses and completed training courses with course summary sheets, agendas, course presentation material, course evaluations as submitted by course participants and well as course completion reports.

We propose that this progress report is read while as the same time reviewing activities as displayed in the web.



3. Key events December 2013- July 2014

3.1. General comments

The first half of 2014, was greatly affected by the presidential election particularly from late March till July. The security situation was volatile particularly around first and second rounds of the election. International travels were affected and many international staff were out of Afghanistan for considerable times. This affected meetings, coordination and scheduling of some of the training programs.

However, many of the activities have progressed but slower than planned.

After the annual meeting in Norway, there was some uncertainty as to how the training program and training scope should be modified as proposed by MRRD in meeting. This uncertainty lasted some months when a short term training improvised plan was used and this affected the progress since It was difficult to mobilize international staff for the training sessions on short notices.

The security situation in Faryab has also been volatile, and possibly deteriorating and Faryab province has frequently been mentioned as one of the most dangerous provinces for development work security-wise. This has resulted in work there progressing at a moderate pace. Geophysical investigations for exploratory drilling in Sharin Tagab was postponed for security

reasons, but work could proceed near Maymane.

Also training workshop planned late June early July in Kabul was also postponed for security reasons. However, fortunately project staff has not experienced any serious problems or incidents under the project. The project staff follow security advice from DACAAR and keep a low profile for project personnel. This has so far worked well.

3.2. NORPLAN project staff providing project support:

Visit to Kabul of international NORPLAN staff first 6 months 2014:

Month	Name	Dates	Activity
Jan	S. Stoveland	17-23	Management. Preparation for mid term review
Feb	S. Stoveland	8-21	Mid term review, training workshop
March	S. Stoveland	23-27	Meeting ANSA, lab QC develop.
March	A. de Jong		Preparing training course
May	S. Stoveland	5-15	Management. ANSA QC meet . Revise training program
May	A. de Jong	10-28	Training course Cartography GIS Practical training Hydrogeology: interpretation of geophysical data
June	S. Stoveland	31- 6	Workshop QC, ANSA
June	D. Banks	2-9	-Conducted two training courses: Hydrochemistry and Planning of hydrogeological provincial surveys

Local project staff working full time:

Naqibullah Abrar.	Deputy team leader & Kabul office manager
Prof. Mohammad Naem Eqrar.	National training expert
Prof. Mohammad Shiab Zarinkhail,	GIS/MIS adviser for RUWatSIP
Remzia Yusoufi:	Admin/finance officer
Abdul Naseer Mansoor	Training logistics officer
Habiburahman Fayaz	Receptionist
Farid Shah	Driver
Mohammad Farooq,	Driver

3.3. Mid term review

The mid term review was conducted by COWI consult. A consultant team visited Kabul and MRRD in February 2014. The consultant was engaged by NORAD to conduct the review.

During the period the consultant visited Kabul, a mid term review of the training project was organized. This gave the review consultant the chance to meet most sector stakeholders and many of the beneficiary organizations of the capacity building project.



From the Mid Term review workshop with more than 40 participants discussing the progress of the training program till date.

It was generally concluded that courses should be adjusted to focused on training separately senior and junior staff. This should make the training more effective. Subsequent courses has been tried implemented with this focus, but it has often been difficult since the senior experts are few and very busy.

The report from the mid term review can be seen on : http://norplan.af/Page_Ann_Meet_mid_term_review.html

3.4. Annual meeting in Norway

A delegation from Kabul attended the annual meeting in Oslo in March 2014.

The presentation of the findings from the mid term review formed part of the baseline for discussion and reporting to the annual meeting. MRRD drafted minutes of meeting.

One of the conclusions, was that the training program should be modified and NORAD advised MRRD to discuss with the consultant a revised program for presentation to NORAD to be included in the minutes.

3.5. Visit to Norwegian institutions.

While in Norway the team from Afghanistan visited the following Norwegian technical institutions: (See www.norplan.af, news from the visit)



NORGES GEOLOGISKE UNDERSØKELSER (NGU)

At NGU in Trondheim, the discussion focused on development on national hydrogeological maps and to learn from the experience how to collect data and staffing capacity required to maintain such information systems. The visit was informative and NGU indicated that if required, they could provide training support for selected personnel from Afghanistan to spend some time in Norway providing hands on training with data collection and map development.



NORWEGIAN INSTITUTE OF WATER RESEARCH.

The visit to the water testing laboratory was very useful since this was one of the first accredited laboratories in Norway. MRRD is currently working with quality control of water testing laboratories so the visit to NIVA was most informative to see how quality control systems was applied in practice. NIVA would also consider providing training support if requested to do so. In the past NIVA has been involved in development project with Norwegian Government funding support.



UNIVERSITY OF LIFE SCIENCES, (UMB) Ås, Oslo

The delegation was met by Prof. Petter Jenssen (Water -San) and Prof. Gry Synnevåg. (Noragric). UMB is extensively involved in training of overseas students and at cooperation with universities in developing countries. Discussions were held covering training of MRRD and Afghan personnel as earlier discussed in a NORHED proposal which unfortunately stranded. However, there were many areas of interest to discuss including natural wastewater treatment system and simplified water treatment technologies. UMB would welcome further cooperation with Afghanistan, University in Kabul and MRRD. It was also discussed that staff from Afghanistan could also apply to participate in a on-line M.Sc. training program with UMB has developed for water and sanitation engineering for developing countries.



Meeting at NCA HQ.

MRRD has over a number of years worked closely with NCA through activities in the rural water supply and sanitation field. NCA was planning increasing activities in Afghanistan of WASH activities as coordinated through the WASH cluster coordinating structure.

During the visit to NCA headquarters, the M.Sc. student project covering solar stills testing in Kabul was discussed and cooperation agreed.



The delegation also met with chairmen of **Norwegian Afghanistan Committee** (NAC) while in Oslo.

3.6. Presidential election and influence on project progress

The presidential election in Afghanistan affected much of the activities this year. The first round in the election was 5th of April and the second round was held 14th of June. This was a big event in Afghanistan which affected work program and work flow. The security situation was tense around many of the key stages of the election including election dates, and periods around announcing of results.

The effect on the project has been delayed work in late March, April and part of both May

and June. The effect came in form of limitation to organizing training activities and by limitation of travels by international staff.

3.7. M.Sc. study on solar stills in Kabul.

The issue of development of Solar Stills as a test case was discussed in Oslo at NCA HQ as the Afghan delegation visited Norway for the Annual meeting. The development was coordinated between NORPLAN, NCA, MRRD, and University at Ås (UMB). As a result of discussion Cecilie Kolstad, M.Sc. student arrived in Kabul in early May to develop, manufacture and test some smaller solar still units with a size of 1 meter square each. By the end of May, the initial tests were complete and Cecilie returned to Norway to complete drafting her M.Sc. Thesis. This was submitted in August 2014. In Kabul, the tests were conducted at the roof of NCA office block in Kabul. The photo to the right show some of the modules tested.



The preliminary results indicated that it would be possible to produce at least 3-4 liters of de-salinated water from the small solar stills. The testing was not completed so the work will have to continue. But a very brave and good start and all respect for the contribution made by Cecilie Kolstad. (see http://www.norplan.af/Page_Wat_San_technology_solar_stills.html) We believe this activity is important in order to find possible solutions for how to serve poor rural people in hot, remote areas where the ground water is saline (salty) and where we have no current sustainable technical water supply solutions.

Development of Quality Control Framework in Afghanistan for Water Testing Laboratories.

The problem with the lack of quality control at water testing laboratories in Afghanistan has been brought forward in search of a remedy. ANSA has been identify as the government focal point for Accreditation of Laboratories in Afghanistan

On the initiative of NORPLAN and UNICEF, the first meeting to discuss the problem and potential solutions was convened at ANSA in February 2014. Follow up meetings were held planned for March (postponed for security reasons) but held in early May. The third meeting was organized in first of June followed by a 2 day workshop where actors discussed how to develop the organizational framework for Afghanistan for Quality control and quality assurance. Two



technical sub-committees were established for the development of policy framework and for technical operation procedures and capacity building. Good progress so far, but further support is essential. GIS has also indicated support in the future for QC of water testing laboratories.

For more details: http://www.norplan.af/Page_Coord_WaterLabs_QC_ANSA.html

4. Planned work and progress.

For the first half of 2014, the key focus was to look at what remained outstanding to be done under the project.

The work plan as included in the progress report last year in September 2013 is shown below to put the project activities in perspective.

In perspective, the following was the general overview of the situation for hydrogeological activities:

4.1. Hydrogeology surveying in Faryab

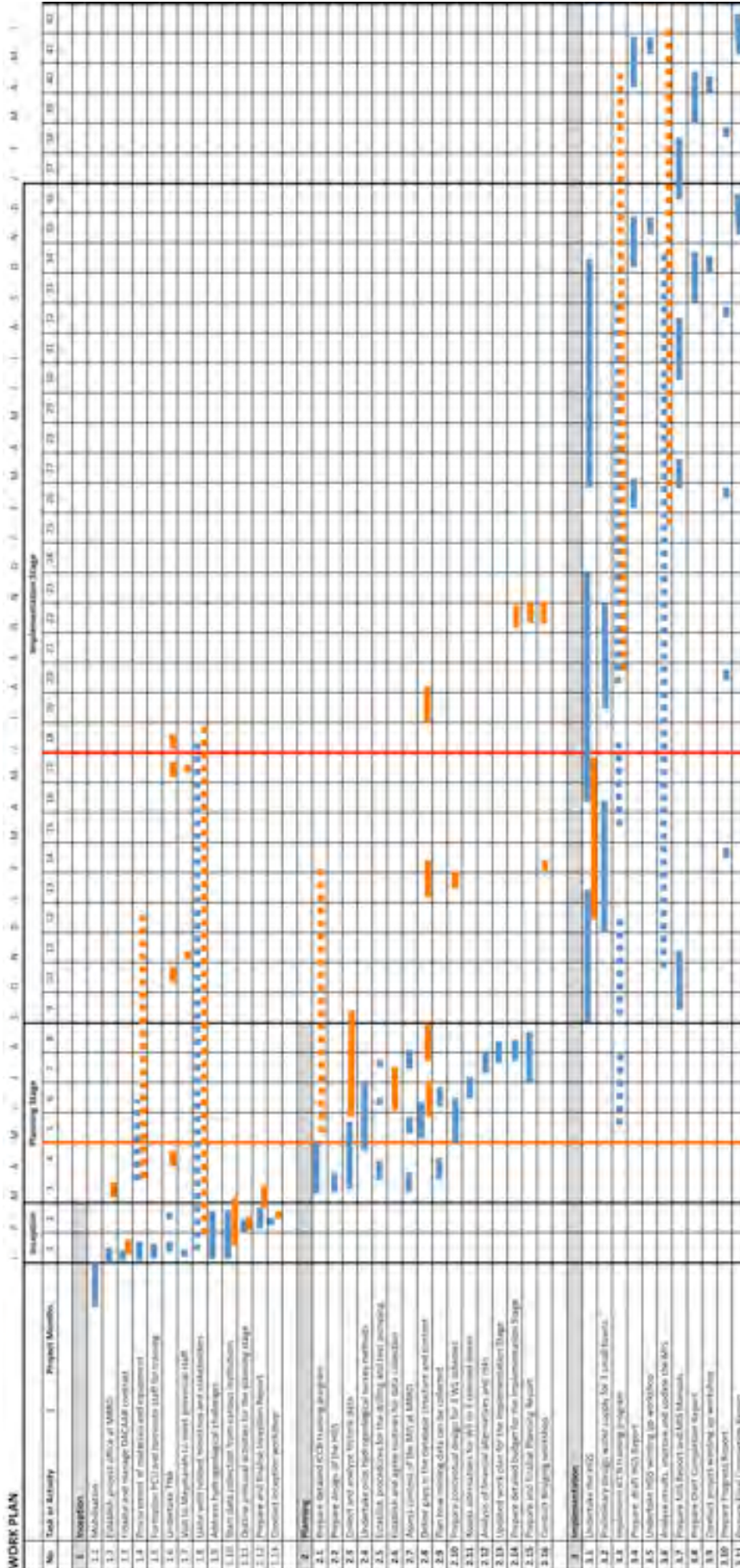
- Field survey covering water resources in Faryab covering water sampling, water source surveys, river monitoring, snow and rainfall data collection, collection of drilling, geological and hydrogeological information:
Status: Complete
- Development of methodology for hydrogeological surveys..
Status: Methods developed and used. Documentation on the web circulated
- Water Atlas for Faryab: A 12 chapter hydrogeological atlas for Faryab has been prepared. Available on the web for downloading:
Status: Complete with exception of one chapter (results from Exploratory drilling - result from test-pumping aquifers).
- Geophysical surveys in Faryab: Geophysical survey conducted near Maymane Airport late 2013. Not secure to move to Sherin Tagab nor Andkhoi which were the two other areas to be surveyed.
Status: Survey reports prepared spring 2014 (MRRD and DACAAR) and reviewed/ discussed in training workshop in May 2014. Meeting held in June with agreement of approach for upcoming exploratory drilling as earlier planned for Faryab to start summer 2014.



MRRD obtaining permission by landowners to drill on selected sites.



Drilling rig in place in Faryab in 2014



- Exploratory drilling near Maymane to start Summer 2014.
Status: After meeting in June, MRRD team traveled to Maymane in July to obtain agreement with landowners to permit drilling. Drilling rigs to arrive in Faryab September 2014.

Remaining work:

- Additional geophysical surveys for Sharin Tagab and Andkhoy (if security allows)
- Exploratory drilling to be completed (Maymane 5 boreholes) + Sherin Tagab and Andkhoy
- Complete report (Water Use Atlas for Faryab)
- Clearing of well logger from customs and train MRRD and sector stakeholder in operation of logger and on collection and interpretation of data.

4.2. Development on GIS,

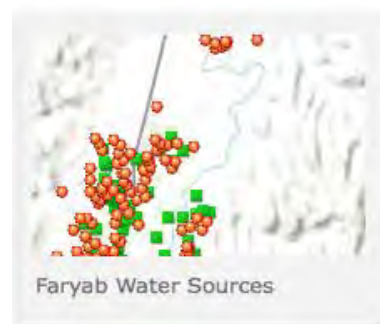
The development of GIS and MIS started late with the GIS adviser started 12 months after the project startup in December 2012.

The focus has been :

- To design and finalize the design for hydrogeological maps
- To screen and clean data so that the maps for Faryab would be correct
- To develop a framework for the web hydrogeological maps (or on line maps)
- To train staff so that RuWatSIP would be able to develop the institutional capacity to use the developed methodologies for application throughout Afghanistan using Faryab as a model province with respect to hydrogeological information management.
-

Results and achievements:

- The design of maps using ArcGIS has generally been completed. See http://www.norplan.af/Page_GIS_map_templates.html
- Data for entry as a basis for the ArcGIS maps has been cleaned.
- The development of the web hydrogeological maps has been much slower than anticipated. The maps have been ready during the reporting period but more time is needed.
- The focus for training and establishing a GIS/MIS capable if making the project input sustainable has not proceeded as expected.
- The project has now identified a simpler on-line mapping tool which may be more suitable for producing on-line maps (ArcGIS on-line). This framework will reduce training needs and make the software available to all users as long as the information is made available on the public domain. Looks very promising and training programs are already planned for such activities.



Example of on-line web maps
as shown on ArcGIS web view.

Remaining work:

- To test the methods on a 2nd or 3rd province in Afghanistan to demonstrate that the methodology works.
- To train more staff in basic data treatment, data cleaning so as to handle larger volume of data for hydrogeological mapping.
- To provide further training in design and use of web based maps using ArcGIS on-line utility.

4.3. Support to MIS- Database/ UNICEF

UNICEF is supporting the development of a major database for mapping functionality and quality all rural water supplies facilities in the country. The Adviser funded by NORAD covering also this work spending 50% of this time on the UNICEF funded activities and 50% working with hydrogeological data and maps. The UNICEF supported activity is handled by ARTS, a local consultant firm. NORPLAN has agreed to pay for a minor part of the database development so as to make the input and output to the database multi-lingual (English, Dari and Pashto).

The delay in the above project has made the joint capacity building and training for central and provincial staff more difficult and delayed.

4.4. Support for RuWatSIP web page

The project working closely with RuWatSIP has agreed to support the department to have its own web page. This has been prepared by a local consultant using ready made templates for the different types of pages. The page looks very attractive and the staff in the communication unit managing the web page is progressing well.



see: <http://www.mrrd-ru-watsip.org>

5. Training and Capacity Building

5.1. General progress

The training and capacity building has proceeded reasonably well with 10 training courses completed during the first half of 2014. In addition, on the job training has been provided since this was one of the key request from participants at most courses. The list below show the training courses presented. All planned courses with reports, photos and training material is available for downloading in the web.

http://www.norplan.af/Page_Training_4_completed.html

#	Course title	Date	No	By
4.11	Remote sensing, ArcGIS	4-18th Jan	18	de Jong
1.10	Well construction and test pumping, Regional, Mazaar, DACAAR	25-29 Jan	31	DACAAR
	Mid term training review workshop	18 Feb	43	NP
4.12	Data management (Excel and access)	22-25 Feb	30	NP
1.11	Practical pumping test interpretation	25-30 March	23	de Jong
1.12	Practical geophysical data interpretation	24-26 May	8	de Jong
4.13	Cartography, GIS	27-28 May	12	de Jong
2.12	Hydrochemistry	2-4 Jun	20	D. Banks
5.12	Workshop of Water Quality control for water testing labs	3-4 Jun	32	Stoveland
1.7- II	Planning and implementation of hydrogeological surveys	7-9 Jun	21	D. Banks

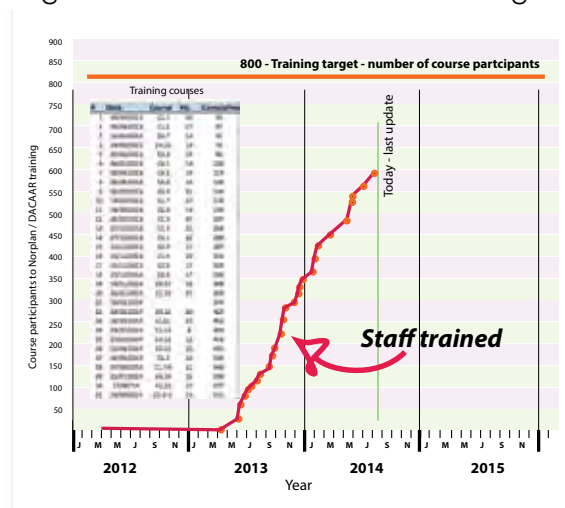
All courses have been coordinated by the national training expert, Prof. Eqrar in NORPLAN. For each course, a project summary sheet has been prepared, agenda and invitation letter circulated so that the participants joining the courses have relevant background to benefit from the training.

Whenever the courses have been delivered by an international expert, a highly qualified local counterpart has assisted with translations. Most of the discussions have been conducted in local language, but always with good translators present. Technical experts including professors have been providing essential support during the training sessions.

The summary table to the left shows the volume of training undertaken.

By the time 31 courses had been completed, 593 course participants had received training support and 276 different persons benefiting from the training

The complete list of participants with names and organization can be seen on the web giving



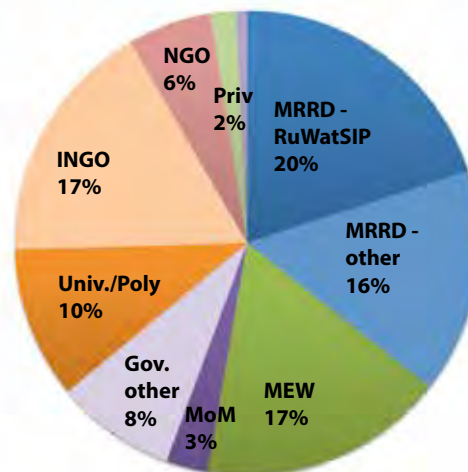
The summary table above show key data from the training inputs and outputs

Note: Close to 600 course participants trained, against a target of about 800 by August 2014.

details of course summary figures of list of participants. We appreciate that the legend may be rather small but the two diagrams below indicate the general progress in terms of volume output compacted to planned activities and also which organizations the participants came from. For more details see web (http://www.norplan.af/Page_Progress_training.html)

General findings (All course are evaluated and the reports from each course is published on the web - training - report from courses).

Where 273 different course participants came from



Note: 20 % from RuWatSIP, 38% from MRRD, 17% MEW, 3% MOM, 8% other gov. agencies, 10% University or Polytechnic, 23% NGOs, 2% private.

5.2. Important lesson:

Training needs assessment made on at the beginning of the project had limited value. It was learnt during the training that the skills levels of the different participants were quite different from earlier expectations. The more the trainers worked with the staff, the better the trainers learnt to know the training gaps and revised training courses could be implemented. For instance, for people to handle data it is quite apparent that basic softwares tools like MS excel and MS access software are important. Thus courses has been organized to address such clear knowledge gaps.

Also focus has been kept on practical training using tutorials, field work and practical assignments which may be typical for the working day situation. This has been fruitful and quite successful in our view.

Some recommendations from the mid term training review workshop.

On of the recommendations was that courses should be held separately for senior and junior staff. This would make the training more effective particularly for the senior staff that needed specialized training and who were better positioned to appreciate specialized training particularly where interpretation of data was involved.

During subsequent training courses NORPLAN has tried to follow this recommendation but with limited success. The limitations have been that senior staff is often not available as and when the training courses are planned or that work assignments prevents them from participating. We have therefore tried in some cases to extend a course for one day extra for the senior staff if requested to do so in order to address more specific topics or more complicated data interpretations.

Training support by DACAAR

DACAAR has been our good implementing partner for the project. They have provided training particularly aimed at technicians level and at provincial and field staff. The WetCentre which is part of DACAAR has been arranging three ready made training courses covering a) Water supply O&M, b) Social mobilization and c) Training of trainers courses. Key field hydrogeological staff has been providing specialized training at provincial levels covering well design, water quality testing, and test pumping. These courses have been conducted in May-mane and Faryab and have been well attended.

Keeping focus on Project issues.

In general, the project management has kept the training and capacity building focused on the core issues of the project namely to develop key methodologists for hydrogeological surveying, analyzing data and reporting both in hydrogeological reports and in form of hydrogeological maps for use for water supply development. We believe the training program has progressed well. Capacity building and training has been the main focus to secure that local staff are trained to continue the hydrogeological mapping which started in the pilot province of Faryab to later cover the whole of Afghanistan.

5.3. Training in hydrogeology,

Training courses for planning of hydrogeological surveys have been completed. The water Atlas has been produced as an example how a provincial hydrogeological survey should be done. We have completed collection of data from the field including assessment of water qualities from different water sources. All this has now been completed and used for the report and for training. Training is still continuing in how to conduct geophysical surveys and how to interpret results. This is a complicated science. We are perhaps half complete with the training of on data interpretation which is also tied to the training of the procured well logger which has been delayed at the customs. The specialized training using well logger will proceed once available. Training will be given on both how to operate and use the well logger and then training will be given on data collection and interpretation using this advanced equipment. More training for test pumping and logging of water capacities will also be conducted in connection with the exploratory drilling now in progress in Faryab.

Remaining key training tasks:

- To have the well logger cleared from customs
- To train MRRD and key operators how to operate the logger using this sensitive equipment
- To train the operators, MRRD staff and a wider audience of hydrogeologists what type of data can be collected and interpretation of data. This equipment being quite sophisticated should open new but also existing wells for further investigations and inspections.
- Practical test pumping training in Faryab
- Interpretation of data from exploratory drilling in Faryab.

Both the activities above are quite important for lifting the expertise using the new equipment ordered. The well logger also has to be mounted on a vehicle for ease of use, and the practical training of use/

5.4. Training Data Management (MIS) and GIS.

The development of methodologies for data management, GIS and preparation of web maps started late and perhaps close to 12 months late when the local GIS adviser could be recruited for RuWatSIP and for the project. We believe we are now half way with basic training of data management, (excel and access), and training how to design maps using ArcGIS software. A few more short courses are needed there. When working with Web maps, it became apparent that using initially proposed software would be very complicated and difficult to implement in view of basic expertise available and workload such applications demanded. Fortunately, ArcGIS has recently launched an ArcGIS on-line service whereby on-line maps can easily be made. The new approach is very much simplified and training how to use this software only requiring a days of training for basic skills rather than weeks which may be the case for more complicated software. Furthermore, the software ArcGIS on-line is free or charge as long as the data i made freely available on the web. This is good news an initial-ly test run is very favorably. The maps will shortly now be on-line and training is making good progress. By March- May next year most of the on-line map training should be complete.

Remaining training needs

- Data management courses, technical staff: Excel and Access for IT and Hydrogeologists.
- Training and design of maps in ArcGIS
- Training courses in development of ArcGIS on-line (Web Maps) for map developers, map updating
- Training courses for users of hydrogeology data , hydrogeologists, water engineers, planners etc.

5.5. Training on water supply design

This about to start and will be completed during the next six months.

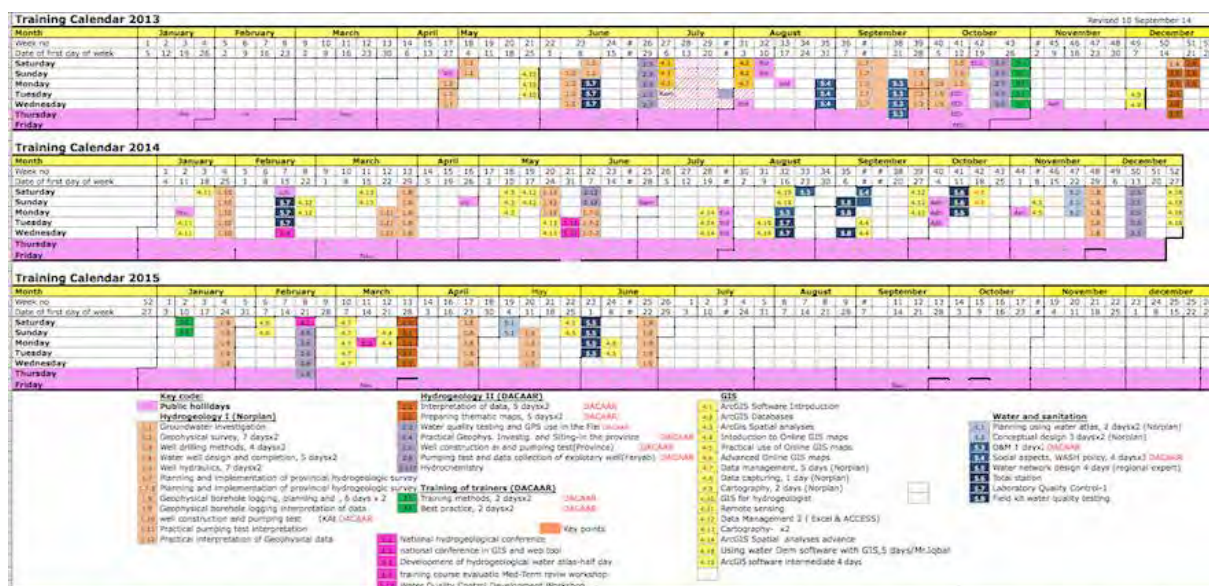
New, and not initially included in the training was quality control in water testing laboratories. Two courses have already been delivered, and one of two more may be run.

Courses yet to be completed:

- Conceptual water supply planning and design
- Total station , surveying and production of maps
- Water network design
- Laboratory quality control system design and practical us

5.6. Completion of the training activities.

In order to wrap up the key training activities focusing on project sustainability and key focus on the project objectives, a revised training plan has been prepared. The plan covers the main issues discussed previously of activities to be covered. It also covers time framework with was discussed with MRRD in September this year. From the diagram which also has been posted on the web, finishing the planned training courses will take us till the end of May or June next year. See training plan below. (in better detail on: http://www.norplan.af/DocumentsHGS/Doc_training/Training_Calendar_2013_2015.pdf)

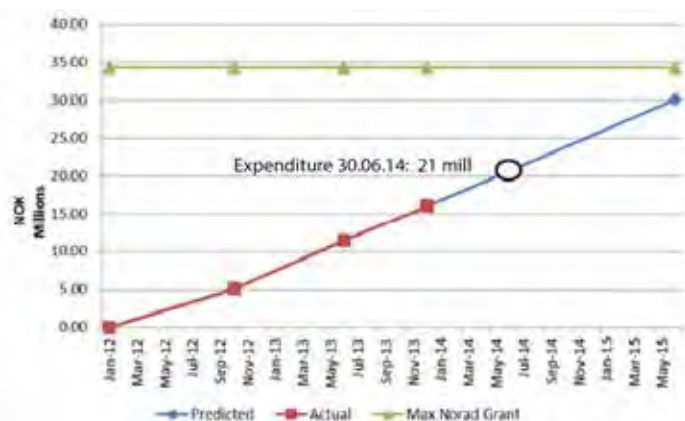


6. Financial status:

The financial status of the project was discussed in the mid term review indicating in general that the project implementation and resource use was relatively on schedule. The figure below is taken from the mid term review but updated with the expenditure as reported for July 2014. The expenditure is more or less on schedule as predicted and anticipated. Expenditure by 2014 is NOK 20.6 million.

The financial summary table below shows the budget for the project and the expenditures so far for the project.

By September 2014 we have estimated expenditure will be approximately NOK 22.5 mill.



Budget as presented in September 2013, and expenditures shown on the green/ blue lines (in NOK)

Form F2: SUMMARY OF COSTS			NOW UPDATED FOR EXPENDITURES TO DATE:			30/06/20
Item	Inception Stage (NOK)	Planning Stage*) (NOK)**	Implementation Stage (NOK)**	Total Cost (NOK)		
Foreign Staff Remuneration						
Carried over from Form F3	2,086,800	Total from Box B	10,808,307	18,406,1		
Expenditure per 31.05.2014	1,314,558	5,511,074		14,207,6		
Local Staff (DACAAR)						
Remuneration						
Carried over from Form F3	133,250	399,750	3,210,000	3,743,0		
Expenditure per 31.05.2014	133,000	1,343,989		1,476,9		
Sub Total Remuneration	2,220,050	5,910,824	14,018,307	22,149,1		
Total expenditure Remuneration per 31.05.2014	1,447,558	14,237,089		15,684,6		
Reimbursable Costs						
Carried over from Form F4	373,228	Total from Box D	3,585,990	5,341,2		
Expenditure per 31.05.2014	261,952	1,382,025		2,244,8		
Sub Total Reimbursable	373,228	1,382,025	3,585,990	5,341,2		
Total expenditure Reimbursable per 31.05.2014	261,952	1,982,894	0	2,244,8		
Equipment Procurement						
Carried over from Form F5	945,359			5,564,7		
Expenditure per 31.05.2014	822,491	4,619,425		2,673,1		
Sub Total Equipment	945,359	4,619,425		5,564,7		
Expenditure per 31.05.2014	822,491	1,850,654	0	5,564,7		
Expenditure per 31.05.2014	2,532,001	18,070,637		20,602,6		
Total Amount	3,538,637	11,912,274	17,604,297	33,055,2		

Figures in *Italics* = Provisional sum (PS)

*) indication only, subject to findings during inception Phase

**) Planning and implementation phases added together

Note: Equipment procurement

Advance for inception stage NOK 1,000,000 received

Advance for planning stage NOK 2,500,000 received

Most of the expenditure is directly linked to consultants staff inputs from international staff, local staff and DACAAR. Without staff input the capacity building would not be realized:

The 5 key international staff covers:

Name	Key assignment	Comments
S. Stoveland	Team leader, water engineer	Project management. Demanding and time consuming. Water supply training conceptual design, laboratory quality control training, technology testing and development reporting, preparation of training manuals 12 mnd remain.
A. de Jong	Trainer: Geophysical investigations, GIS	Continue training in hydrogeological investigations using well logger, (3-4 courses), and data interpretations. de Jong has also extensive practical expertise in GIS and has therefore provided support to the GS/MIS unit to support GIS, basic data management training and use of on-line hydrogeological maps Extensive practical training remains 6-9 mnd required.
D. Banks	Hydrogeologist, Survey methods, hydrochemistry	Mostly finished, but remaining to supervise exploratory drilling, finalize water atlas, chair national conference on hydrogeology for Afghanistan . Assume 2 months input remains
E. Eikaas	Gender, conflict	Review gender involvement, assess water conflict issues
B. Hultman	Admin/fin. HQ	Financial supervision, security liaison, invoicing, procurement 7 mnd needed
Local staff:- senior professional		
N. Abrar	Deputy team leader	Local office manager and deputy team leader. Coordinates all project activities. (Full time)
Prof. Eqrar	National training expert	Planning and coordinating all training courses. Facilitate in translation and support training. Prepare invitations, reports and documentation. (Works 80% full time)
Prof. Zarinkhail	GIS MIS adviser	Works 50% on project for GIS-MIS and work 50% on RuWatSIP MIS to manage unit. (Full time)
Local staff - junior support staff		
N. Naseer	Training logistics	Organize preparation of documents for participants, stationaries, participants registrations, allowances, tea and lunches (Full time)
Habib	Receptionist	Office clerk, security for office. Support training (Full time)
R. Yousofi	Adm. finance	Keep accounts, registration of equipment and procurements, (Full time)
Farid	Driver	Both full time
Farooq	Driver	

DACAAR has provided support through providing six training courses by the WetCentre. Separately Eng Hassan and Eng. Jaweed have providing decentralized training at Mazaar and Maymane on practical hydrogeological activities including test pumping.

The implementation of the project covers capacity building and the work is handled by the above listed staff. This is also where the cost of the project lies. With the delays, more funds

have been used for consultants staff time. It should also be noted that substantial savings have been made compared to the proposed budget in the TOR for reimbursable costs. This has to a significant extent balanced the increase in consultants times and costs.

Delayed activities: (funds not yet spent)

- Scholarships (USD 100 000)
- Test pumping equipment (20 000)
- Drilling consumables (USD 50 000)
- Translation services
- 2 national conferences, International conference
- Unforeseen

The details of equipment expenditure is as shown in the table below. Some items have not been used at all. Most of the expenses used are associated with procurement of equipment and expenses for running training courses. There is a need to agree on use of resources for the remainder of the project. Discussions has started but not finalized on external training of Afghans abroad.

Budget description (As in financial proposal revised Sept 2013m item 6.1)	Budget (in 000) NOK/USD =5.80		Used, Jul 2014
	USD	NOK	NOK
Sub-list equipment, software training support See list 1	325	1,890	1,168
Expenses running training courses, participants costs	290	1,684	956
List university grants M.Sc's and Ph.Ds tentative amount see list 2	100	580	0
Drilling consumables	50	290	14
Miscellaneous (unspecified items)	30	174	0
Sum	796	4,619	2,138

7. Achievements and status

Summary overview of status, achievements and gaps

Hydrogeology:

- Review existing sector actors, equipment and methods available in Afghanistan
- Develop survey methodology- done

- Prepare methods descriptions for sampling and surveys- done
- Collect existing hydrogeological, maps, well data, water facilities data- done
- Sample, waters for flows, capacity and quality, analyze soils, snow and rainfall for Faryab.- done
- Prepare hydrogeological report (Water Atlas) for Faryab)- done,(one of 12 chapters remaining)
- Prepare training needs assessment (TNA) done, but continuous updating needed.
- Develop drilling program for exploratory drilling- in started
- Conduct drilling program - now in progress

GIS.- MIS

- Review existing data management systems and data bases of relevance done
- Propose data management framework - done
- Propose GIS and map system for use for desktop presentation, and paper maps- done
- Prepare Solutions for on-line hydrogeological maps- nearly complete
- Data software procured, and computers in place.
- Prepare training needs assessment done but continuously reviewed
- Design database and establish database system in RuWatSIP- ongoing
- Design ArcGIS hydrogeological maps- done
- Prepare Online web based hydrogeological maps.- good progress.

Water supply and sanitation planning

- Draft framework for conceptual design prepared
- Awareness of new technology ideas presented testing solar stills and low pressure membrane filters. Solar still testing started. More work to do, Pressure filter procured. Water quality analytical deficiencies uncovered and quality control training and internal control systems initiated.

Development implementation of ICCB (Training and capacity building program

- Develop training needs assessment for above themes Hydrogeology, GIS/MIS and Water supply and sanitation.
- Design training courses complete.
- Implement training program (31 of about 50 courses completed)
- By end of August 2014, 31 training courses completed providing 273 different persons training on one of more courses. Training courses implemented by NORPLAN, DACAAR, University resource staff and freelance experts.
- Organizing visits to technical organizations in Norway handling hydrogeological surveys and mapping, water quality analysis, and university training.
- Organize training for M.Sc overseas- discussed only.

Sub-sector coordination

- Through workshops and training the project has managed to involve all key stakeholders in dialogue about ground water resources, mapping and hydrogeological surveys. In addition to ministries such as MRRD, MEW, MoM, also NGOs and University/ polytechnics have participate in discussions and training sessions. This has generated good consensus of need

for improvement. Lately, MRRD and NORPLAN was invited to MEW to provide support when that ministry started its work on how to restructure its groundwater resources department.

- Initiatives have been taken to organize quality control of water testing laboratories in Afghanistan under ANSA

Management issues

- Establish offices at MRRD
- Plan and hold inception meeting
- Prepare planning report and conduct bridging workshop
- Organize procurement of equipment and software in line with TOR and inception report.
- Coordinate with other key sector stakeholder including MRRD, RRD, MEW, MOM, and organizations including World Bank., UNICEF, DACAAR and other.
- Reporting: Follow reporting frequency as per TOR.
- Office facilities established as agreed
- Equipment in TOR ordered as described in equipment list in the TOR. More is still to be procured.
- Project Web page established for project coordination. Continuously updated
- Procurement guidelines and accounting
- Visits to Maymana has now managed to make province aware on need for better planning and coordination.
- NORPLAN local staff provides extensive administrative support to RuWatSIP which has facilitated important progress.

8. Proposed Way forward

The project is generally progressing well and in process of covering most of the terms of reference. What is not covered will be mentioned below.

The difficulties at the start up caused by among other issues taxation issues caused significant delays first year. In addition, the technical capacity from the client to partake in the development of MIS-GIS activities was delayed by 12 months. Thus with this background, it is only logical that as the contract indicates, the client should allow extra time for the consultant to fulfill the terms of reference.

We believe this is possible and the proposed focus would now cover:

Hydrogeology

- 1 Complete training covering geophysical survey techniques and data interpretation using logging equipment
- 2 Complete exploratory drilling in Faryab to investigate capacity of key water aquifer near Maymana and at Sherin Tagab. The latter area will have to be assessed in accessible for security reasons.

- 3 Sink one deep borehole at Andkhoy to assess potential for deep water source

GIS- MIS

- 1 Complete development of hydrogeological maps using ArcGIS on-line utility
- 2 Add additional basic training for IT staff and hydrogeologists covering basic and key data management software such as Excel and Access
- 3 Continue /complete training courses for on-line web mapping (ArcGIS on-line)

Water supply development

- 1 Continue development of quality control for water testing laboratories
- 2 Conduct conceptual water supply planning course as planned.
- 3 Procure total stations and provide training for water engineers
- 4 Provide training course for water network design.
- 5 Continue technology tests and development for Solar Stills and membrane testing facilities

Training and capacity building

- 1 Complete training program in accordance with latest training calendar
- 2 Identify two- three candidates for M.Sc training abroad, tentative at suitable university in Asia (India, or possibly Indonesia)
- 3 To conduct two separated one day national conferences covering the topics of
 - "Hydrogeological surveys In Afghanistan"
 - " Use of GIS and on-line web mapping for development planning and implementation in Afghanistan
- 4 Organizes translation of all key course presentations to Dari languages
- 5 Complete training modules for the different training courses.

Areas not covered:

The detailed planning and design for 3 towns in Faryab has not take place. The project team has repeatedly asked for candidate areas for consideration. For three towns with less with 5000 persons means in practice rural settlements or districts where rural water supply solutions would be the likely solution with full community participation. Since the project does not have funds for construction, it is not possible to mobilize a community without the funding to follow up development. It is therefore more logical that towns to be covered (where prioritized) could be supported though other implementors which NORAD is funding in the Faryab Province using the hydrogeological information provided by the project.

Completion and schedules:

- The project training and field activities will be extended to continue till end of May-June 2015.
- Agreement with DACAAR will be extended till end of June 2015 as a project partner under this project.
- After closing of field activities the write up of all manuals, reports and translations will be completed for project closure at the end of 2015. At that time, all equipment will be handed over to the client.
- A last annual meeting will be held in Kabul in November 2015 for project summary and wrap-up.

9. Revision of resource input /use

There will be no need for any increase on the budget framework which stands at NOK 34 million.

A revised budget will be prepared to take into account of the project being extended in time as earlier mentioned till end of 2015. Some of the staff will leave when the field activities end in May - June 2015, while some of the core team will continue to finalize all documentation and administrative tasks as required in the TOR till the project close.

For completing the project we proposed to staff this in the following manner;

Position	Name	Mnd: Jul-14-Jul15	Wrap-up Jul 15-Dec15	Total mm input
Team leader	S. Stoveland	8	5	12
Trainer Hydrogeo/GIS	A. de Jong	6	3	9
Hydrogeo. survey	D. Banks	1.5	1	2.5
Adm. finance	B. Hultmann	4	3	7
Other	Engineers, GIS,	2	1	3

Local staff inputs:

All local staff need are expected to continue till end of of the project.

Based on earlier budgets, savings and unallocated and unused funds, it will be possible to complete the project within the project framework of NOK 34 million. A detailed revised updated budget will be presented prior to the annual meeting in line with the above.

Team leader S. Stoveland

10. Appendix:

10.1. Overview of staff time used on the project

[illegible]