



Quality Control for Water Testing Laboratories

Minutes of meeting

Venue: ANSA Kabul, 17th December 2014 at 10:00- 11:30

Purpose of meeting:

- 1) To discuss progress in development of Quality Control System for water testing laboratories and to revitalise work
- 2) Presentation of case study for laboratory assessment

Agenda points:

- Welcome- Dir. Dr. Khateer, ANSA
- Developments ANSA –Dr. Khateer
- Status QC development- where we are now. –Stoveland
- Quality Control Inspection- Case Study- Norplan- DACAAR
- Discussions and comments from ANSA. World Bank, DACAAR, and UNICEF.
- Proposed action next few months.

Present:

	Name	Position	Organization	
1	M Khateer	Dep. Dir.	ANSA	
2	Sewer Hangham	SDCT	ANSA	
3	Luckson Katsi	WASH Expert	UNICEF	
4	M. Rasuli	Sen. Env. & Water specialist	World Bank	
5	Dr. S.Stoveland	Team leader	Norplan	
6	Eng. N. Abrar	Kabul Manager	Norplan	
7	N. Mushwani	Lab. Manager	VICC	
8	Khalilrachman	Lab. Man	DACAAR	
9	Wajma		ANSA	
	Dr. Betman	WASH	DACAAR	In Daccaar workshop
	Dr. Zeenat	Water Quality expert	GIZ	In Daccaar workshop
	M. Afzali Safi	Nat. Adviser	MRRD	In Daccaar workshop
	Prof. Eqrar		NORPLAN	In Daccaar workshop
	Klaus		GIZ	On leave
	F. Patigny		WHO	On leave

This meeting was arranged on short notice, and it collided with a meeting at DACAAR on groundwater monitoring and aquifer recharge. Therefore many participants attending that important meeting were parented form attending the ANSA meeting.

1. Welcome by Deputy Dir. Dr. Khatter, ANSA.

ANSA welcomed to the meeting. The meeting has been called on a short notice to boost the work on development of a Quality Control system for water testing laboratories.

2. Background and status, deputy Dir. Dr. Khatter, ANSA.

Dr. Khatter informed that many meetings has been held and a roadmap has been discussed on how to develop a quality control system for water testing laboratories in Afghanistan where ANSA had the role as the focal point.

Recently ANSA has also worked closely in the past with the water sector to establish drinking water standards in Afghanistan, which was done with support of key actors including UNICEF.

Since the last meeting and workshop in June, very little progress seems to have taken place. Two technical committees were established at that time which report back to ANSA and the steering committee with developed ideas and proposals on how to operational a system for QC system for water testing laboratories in Afghanistan. There for this meeting was timely to boost and re-vitalise the work.

3. USAID support to ANSA for food laboratories, Dr. Khatteer

Dr. Khatteer informed the meeting that ANSA had received additional support from USAID to establish a laboratory for testing of foods. The new laboratory should be ready in possible a year or so time. This support could probably also assist ANSA in supporting the work of QC with water laboratories. This support was most welcome.

Dr. Stoveland suggested that NORPLAN could meet with the USAID support team to exchange information for look for synergies. We could inform of what work has been undertaken so far for development of a quality control system and to hear more details what USAID is actually providing of assistance. Then we could hopefully work out a plan how to cooperate to coordinate efforts for strengthening ANSA to easier handle the work of leading the technical field of QC system for analysis of drinking waters and environmental samples. ANSA gave the go-ahead Stoveland to contact USAID to follow up.

4. Brief follow up meeting between NORPLAN and USAID/Chemonics the day after the ANSA meeting.

Although not part of these minutes, the meeting the following day with Dr, Sameer Shakallah, Laboratory Specialist and Sayen Shahpoor Mehraban from Chemonix was so good and encouraging that we include the information in these minutes. (So relevant) The Experts are working on the USAID Afghanistan Trade and Revenue (ATAR) Project.

The ATAR project will among other things assist ANSA to establish a fully operational laboratory covering testing of foods including water within one year. A GAP analysis of existing facilities had already been made and plans are in progress how to make the laboratory technically fully functional. (Quite a bit of work seemed to be needed) Then qualified staff would be hired to operate the lab fully operational so as to be callable for applying for accreditation in according to ISO 17025. However, it is acknowledged that getting trained local staff with local functional laboratory management system take some longer time. However the work is in progress.

Norplan showed the Chemonics experts the work which had been done so far with ANSA at QC for water testing laboratories, and the forward plans and some preliminary conclusions and understanding could be summarise as follows:

- Through the ATAR project, ANSA may now get the expertise to lead the development of the QC of water testing labs within a relatively short time (less than one year)
- The new laboratory may also support consider supporting the management of QC and interlaboratory testing for water testing laboratories.
- The new laboratory at ANSA may be equipped and staffed to function as a REFERENCE LABORATORY also for the water sector. (Water supply, and environmental samples). This is great news for the QC work.
- About future training for QC of water testing laboratories, through the ATAR project, additional support in training and laboratory management and quality control system can be provided. The technical expertise provided to ANSA will be at high international level, which may be of great value to the support water testing laboratories though the increased expertise at ANSA.
- It was also acknowledged that the new food laboratory would be at a very much-advanced technical level than most of the existing water testing laboratories in Afghanistan, but Dr. Sameer also fully acknowledged the necessity of different laboratories with different standards and focus such as the important function for analytical preliminary testing in the field or inhouse preliminary scanning of water qualities. However always, whatever work was done a quality control system should to be in place to make the information trustworthy.

It was agreed with Dr. Sameer, that they should be copied of all the work we do and they would be most welcome to provide support and guidance for our work. Stoveland mentioned that if necessary USAID could be made aware of the QC work for water testing laboratories as requested for additional financial support to ANSA if that would be necessary.

In conclusion, this USAID project may provide very important support to ANSA, which may increase the viability of effective and sustainable the implementation of the proposed QC for water testing laboratories in Afghanistan.

5. Stoveland: Update on QC development status

Work slow down partly due to cancelled meetings.

Dr Stoveland who had tried to assist ANSA in organising the QC development work apologised that it has been so long since last meetings. A meeting was called in September but had to be cancelled for security reasons and time had passed.

Need to revitalize work

In order to boost the work, this meeting was proposed held. Unfortunately the notice for the meeting was short and it collided with a parallel workshop at DACAAR whereby many QC steering committee members were already committed to participate. However, since the last meeting has missed some of the key supporting organizations international organisation, some of which were here today it would be

General status:

Much of the information is covered in earlier issues minutes see project web page

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

But for convenience Stoveland summarised in brief for the benefit of people not attending before:

Meetings have been held at ANSA in February, May and June to prepare a framework for developing a quality control system for water testing labs. Much work has been done including.

- Generated awareness that there is a need for a quality control system. Most of the results cannot be trusted from the many labs set up mainly because there is few standards, no quality control systems, hardly any calibration of equipment, control of chemicals, no inter-calibration tests, and no certified training system to know whether the lab technicians can handle the different test or not. Deficiencies have been identified both by WHO and also Norplan and there is now a consensus that a quality control system is needed.
- ANSA is the official government appointed focal point for leading work for accreditation of laboratories in Afghanistan until a specialised office is established.
- It has been accepted that it will take a lot of time and investment for accreditation of water testing laboratories in Afghanistan. However, many small laboratories using different type of simplified analytical techniques (field kits etc.) provide an important advisory service. Their services will be needed also in the future, but there is a clear need to establish some quality control standards so that results coming from the smaller labs can be trusted and that information is issued in a manner which tells what type of precision the analysis have. As such is has been

proposed that a national certification system should be established for different categories of laboratories.

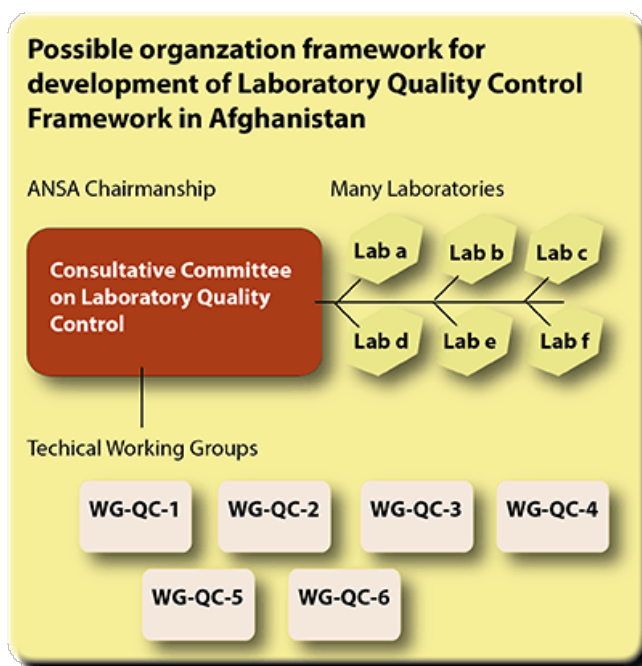
- A road map has been drafted for developing a quality control framework and a work schedule has also been drafted.
- Two technical working groups have been established to develop documentation, policies, strategies, and plans for the establishment of the development framework for QC system for water testing labs:
 1. Policy working group
 2. Technical working group.

(see appendix for details)

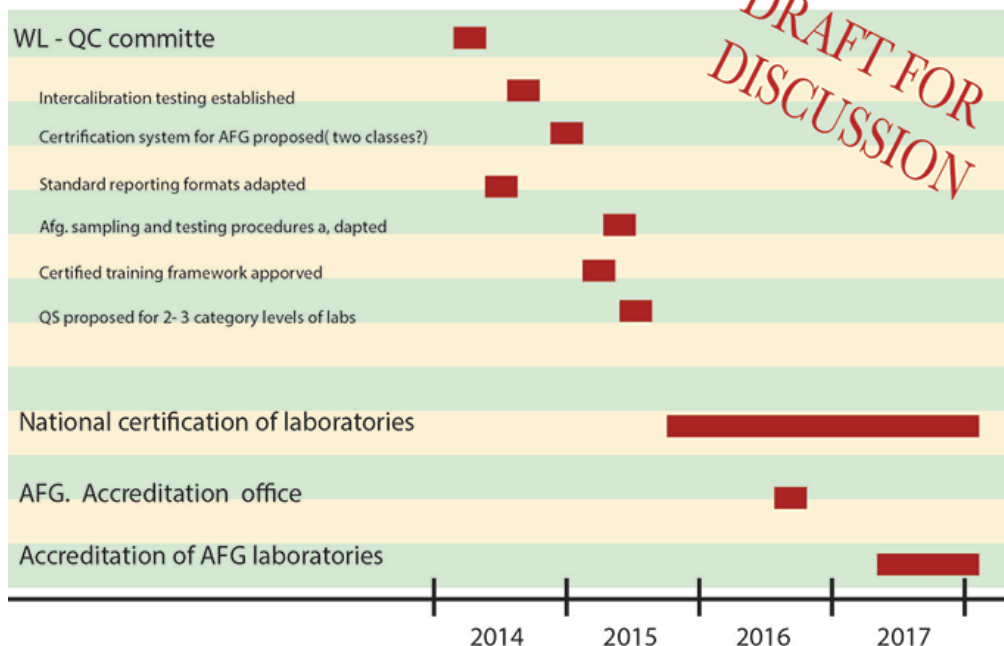
Organization framework proposed:

As the diagram left shows the institutional framework proposed is based on the focal role of ANSA as chairman of a Consultative committee with committee members as owners of laboratories or key resource persons.

For documentation and systems to be developed, work groups should be used which will report to the consultative committee. It was proposed that the work groups are led by resourceful person who has time and capacity to motivate and lead the group to develop proposals in line with the terms of reference for the work group. (see Draft document , Roadmap for reference)



SCHEDULE FOR QA AND QC DEVELOPMENT UNDER ANSA FOR AFGHAN WATER TESTING LABORATORIES



6. Laboratory inspection Case Study:

In the invitation letter to the meeting, the case study was presented.

Dr. Stoveland, NORPLAN and Eng Khalilrahman from DACAAR presented the Inspection methodology, with questions covering instruction to sample, sampling, transportation, registration of samples, analysis, calculation of results, and reporting, (see attached). The questions were asked for the purpose of possible quality gaps where misunderstanding, forgetfulness lack of clear instructions etc. could cause inconsistencies and mistakes.

First and foremost, Dr Stoveland thanked DACAAR for letting the inspection be used as a case study. That is very good and important for the learning process. Secondly Stoveland also commented that DACAAR has probably one of the best labs presently in Kabul testing drinking water and environmental samples. DACAAR also have a well trained and motivated staff with was an asset for Stoveland to do the inspection exercise with.

The comments given below are an illustration of area identified for improvement. It should also be said that when reading comments below, the DACAAR lab is probably among the best labs to there should be potential need for QC systems at all labs.

The detailed comments can be seen enclosed. However, the general comments were as follows:

- The lab has already made good progress in preparing procedures and checklists for analytical work. The checklist needs some minor adjustments so as to know who did what by signing (initials) on the checklist rather than an anonymous tick mark.

- For many of the activities concerning instructions on how, where and what to sample was vague. No procedures, checklists were used.
- On arrival to the lab the samples were registered in a comprehensive form prepared by the lab. – Good. However, there was no written instruction as to what type of analysis were to be done. “All” or, “main Ions”, etc. No clear definition what to look for. (Sometimes difficult, appreciated)
- No regular calibration of equipment. Some equipment never checked against known standards or controls.
- Some, but very few, of the chemicals were out of date.
- The training of staff was quite general and no quality testing as to the analytical skills of lab technicians. (no standards to use for checks)
- The lab did not have any assigned QC officer or anybody to technically cross check that the results/analysis were ok before disbursement

The above are examples of Gaps which all can be rectified with relatively minor expenses. What has already been decided by DACAAR that they are going to procure accurate balances and supporting equipment and chemicals so as to prepare their own standards for internal quality control. IN addition, based on the inspection, other gaps in procedures and quality control will be amended.

Comments by DACAAR: Khalidrahman:

The day spent on the inspection was a training process rather than an inspection of exam. The whole process taught DACAAR a lot what to do to improve the quality of the lab. By also following the recommendations, DACAAR could in the near future train its staff and check the quality of their work. This would be very helpful and useful to make the analytical work trustworthy and of satisfactory quality.

Based on this first inspection, it was suggested that other laboratories could use the same questionnaire to test themselves so as to be aware of gaps. This

7. Comments on World Bank

Mr Rasouli informed that the World Bank was involved in support to the water sector. He was aware of a couple of projects where with MAIL where water quality is also of importance for assessment of quality of irrigation water, nutrients and pesticides. So also in that ministry is QC an important issue which World Bank is fully recognising.

8. Comments on UNICEF, Luckson

UNICEF has supported laboratories at both MRRD and MOPH so it is important that the results. When discussing the suggested training workshop in February, Luckson proposed that one of the outputs should be the Preparation of a Mitigation Plan to make the laboratory results trustworthy within the precision of the techniques employed.

9. Agreed and proposed action to revitalise development progress

- *Workshop in February/March*

Agenda: All labs review distributed questionnaires for self lab Quality Control assessment as implemented at DACAAR

Gaps and prioritise activities should be discussed and identified, documentation, lab facilities and undertaken training activities listed. Based on the findings and assessments, working groups could prepare remedies for the different laboratories'.

In work groups could prepare TORs and guidance for work for the two technical working groups for detailed development of policies, strategies, documentation, procedures, checklists and training needed for QC

During the last day of the gathering, senior laboratory owners, managers and resource persons should be invited to discuss and adapt the key action points for a Mitigation Plan for the Water Testing Laboratories to be come functional. UNICEF could possibly be the recipient of request for support for such a plan.

- *All laboratories to fill the questionnaire (self test) on Quality control standards*
- *Prepare an national mitigation plan to establish quality outputs for water testing labs:*

Norplan agreed to assist with the formulation and assistance for the indicated workshop with the support of UNICEF and DACAAR.

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