

Draft Mitigation Plan for establishing quality control for water testing labs: NEED TO TRUST LAB RESULT: QC NEEDED

At laboratory level:

Issue and status	Where we want to be	Action needed	Mitigation and action by?
Sampling issues:	<i>Discussions and issues related to information about sampling and sampling itself.</i>		
Sampling instructions. Some use forms, not same, varied use.	Same and approve forms. Clear procedures for use	Internal work to coordinate forms and procedures	Require: External coordinator/facilitator.
Sampling: Some collected by lab personnel. Client bring direct also: Reg. documentation vary.	Harmonies core information	Inter-lab-coordination to harmonies and agree on minimum	Require: External coordinator/facilitator.
Labeling of sampling bottles and information asking for same information	Define common minimum info on labels	Inter-lab-coordination to harmonies and agree on minimum	External coordination assistance. Need national guideline.
Different labs use different sampling bottles and cleaning methods	All should followed Afg approved bottles and cleaning methods	Inter-lab-coordination to harmonies and agree on minimum	Require: External coordinator/facilitator.
All have “standard operating methods” SOPs.	Need unified SOPs.	Need to survey all labs to list SOPs in use and agree on approved SOPs for different types of samples.	Survey of Labs. Consultant/ ANSA to visit all labs record. Then technical WG to review and recommend for

			adaptation of appropriate SOP. Facilitation support needed.
Information about sample, varied some remark	Some basic info the same.	Interlab - coordination	External coordination assistance. Need national guideline
Checklists for sampling. Sometimes in use, but not necessarily sent with the samples to the lab.	Need to have prepared checklists to follow sample for documentation of sampling history.	Inter-lab-coordination to harmonies and agree on minimum	External coordination assistance. Need national guideline.
In the lab	<i>Discussions and issues related to information about sampling and sampling itself.</i>		
Registration forms are there , varies from place to place.	Need harmonized for registration forms	Interlab coordination	
Receipt and approval of samples often by technical staff. Vary when samples are approved or not.	Need clear guidelines when a sample can be accepted for analysis or not.	Interlab coordination to develop guidelines	
Are registration forms signed? Normally	Should be clear procedures and form signed by responsible officer	Interlab coordination to prepare instructions for adaptation.	External coordination assistance. Need national guideline. ANSA to supervise
Which analytical parameters applied for different types of samples vary completely from lab to lab. Confusion. Complex often client does not know what to ask for so lab decide based on type of equipment the lab has.	Need to develop clear advisory guidelines for which parameters should be tested as a minimum for drinking water, river waters, environmental samples etc.	Interlab coordination to prepare instructions for adaptation. This is a complex and difficult issue and expert advice needed,	Prepare guidelines and define of which parameters are minimum requirement for different types of samples. External advisor support need.

Different labs use different type of analytical equipment. Many use kits (field kits) while some labs have equipment for standard ASTM analysis.	Different type of equipment must be accepted. However, the reporting of results should reflect the equipment and method used. (See reporting format.	Survey need to be made to map type of equipment used and appropriate reporting formats. These is a need to link analytical techniques to categorization of laboratories certification system for labs and lab technicians.	Categorization of labs necessary for make a ranking when certification of the labs. Survey of labs must be completed. Labs invited to certification and to certified training. Certified training required for the different methods used.
Calibration of analytical equipment nearly totally lacking either due to lack of knowledge of how to do it of lack of standards to check /calibrate the equipment.	All equipment need to be calibrated regularly. Each time the calibration is done this needs to be recorded and documented.	Survey of equipment and calibration needs and training needs have to be established. Establish calibration program/training methods for the different analytical instruments including balances	Need support of expert for surveying all equipment and make training plan and quality control documentation how calibration must be done and documented for inspection by say ANSA. Expertise support needed.
No systematic self tests of equipment and staff available. This is a serious deficiency. Lack of standards and test methods.	All laboratories should have access to standards for the analytical test they do.	<p>Larger labs in Afghanistan should be equipped with 3 accurate balances so that standards can be prepared. Smaller labs should be assisted with standard solutions for self checks. ANSA could facilitate to make standards available.</p> <p>Inter-laboratory testing must be established. ANSA should distribute samples for testing. Initial testing for training</p>	<p>Laboratories need to have access to standard solutions for self test/ calibration.</p> <p>Standard solutions need to be used regularly for calibration and testing equipment but also for training and testing of laboratory staff for certification.</p> <p>ANSA should organize inter-laboratory testing on regular basis. This need to be</p>

		purposes, but later for certification of labs and for quality control	established as soon as possible.
Quality control of sample storage in labs vary.	All need to have fridges with correct cooling temperatures	All labs should be checked that they have cooling fridges fitted with thermometers showing Max- min temps.	ANSA to follow up that labs have fridges and that they do record, monitor and document temperatures.
Reporting	<i>Discussions and issues related to information about sampling and sampling itself.</i>		
Reporting format vary. Many quite good but few report varied analytical methods and their accuracy.	Standardized approved reporting format is needed. All report should inform about analytical result, detection limit of method, method used, critical concentration standards WHO where applicable , + comments	Interlab coordination to prepare instructions for adaptation. Compare forms used and propose forms for ANSA for approved reporting format.	External coordination assistance. Need national guideline. ANSA to supervise
Chemicals – expired chemicals was a problem. Reason could be short valid duration and long procurement time, and budgets.	All chemicals used must be valid.	The problem should be mapped and ANSA and support agencies need to be requested for assistance.	Closer follow up of chemical needs and use needs documentation. For importation ANSA should assist in speeding clearance by providing documentation of needs. Both Government and Support agencies should be alerted for assistance.
No quality control system in place nor certification of labs or personnel. Poor documentation.	All labs must have a quality control system in place to so self checks and to handle	Action should be organized it at least two stages.	Support needed for advising labs how to prepare quality control systems. Much work

	documentation professionally if analyzing samples for outside customers,	First stage: Labs organize procedures, check lists, documentation systems which can be implemented immediately without costs. Stage 2: Quality control system should be developed for each lab generally by themselves and be put in place before lab certification can be given	can be done by lab staff but external support will be needed. ANSA should set a criteria also for a quality control system that need to be in place for lab Certification. This work should be implemented within one year.

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At Institutional/ National level:

Issue and status	Where we want to be	Action needed	Mitigation and action by?
Certification of labs			
All different standards and no common base for checking quality of lab results today	<p>We want to have trustworthy results coming from labs.</p> <p>Results with different accuracy acceptable as long as the accuracy of test used is provided.</p> <p>A quality control system must be established for each certified water testing lab.</p>	Defining minimum requirement for lab standardization for registration.	<p>ANSA to lead development of laboratory standards.</p> <p>External technical support needed and probably also financial support</p>
Training and certification			
Many different training activities not coordinated nor harmonized. Local training capacity available..	Defined courses for certifying of lab personnel. Syllabus for each training course, and definition of types of tests before certification.	After listing of analytical techniques, training and test syllabuses should be established. Certain organizations could then be approved as trainers who can certify personnel according to defined training course/tests. This can in many instances be	Develop training courses for all laboratory work / analysis which lab personnel shall perform. NO lab personnel should be certified to conduct analytical work using a method he/she has not been certified to do.

		very simple training sessions,	All labs should regularly test own staff to assure quality
Coordination / consultative meeting s			
Only lately have lab staff met. The times is has happened the last one of two years, the greater awareness of what is expected of laboratories is developed among personnel.	The laboratory personnel should feel professional. Lab staff should know that the test they have done are correct or not by checking against standards.	Continuous work of creating awareness on quality control is important. Facilitation for technical personnel that they meet and learn from each other is important.	ANSA should facilitation regular meeting of laboratory staff for discussion of general of specific issues