

# Laboratory Quality Control Course

## Course introduction

NORAD supported project in MRRD covering  
Capacity Building and Institutional Cooperation in the field  
of Hydrogeology for Faryab Province  
Afghanistan

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# Objective of course

- To assess ourselves if we can trust the results of the water analysis – are we good enough?

ارزیابی خودی، اعتماد کردن بالای نتایج، آیا نتایج خوب و کافی است

- Can we document that the results we use are correct?

ایا نتایج قابل استفاده درست است؟

- To learn and discuss jointly sources of errors

اموختن و بحث مشترک راجع به منبع اشتباهات

- To discuss how to improve and how to gain confidence in our results.

بحث و تقویه اعتماد سازی راجع به نتایج ما

- – analytical results? - From lab work
- – Is result representative if original water source quality?

Need for improvement?

# Objective continue

- Assume need for improvement and we will cover

و انمود کردن ضرورت تقویه موضوع متذکره و پوشش درست ان

- Improvement in laboratory techniques
- Introduction of laboratory quality control systems
- International QC systems for accredited labs?

سیستیم های بین المللی برای اعتبار دهی لابراتوارها

- Discussion of appropriate QC for Afghanistan

بحث معقول کنترل کیفیت برای افغانستان

- Develop consensus of QCs for adaptations for participating labs

انکشاف و توافق عمومی کنترل کیفیت بری اشتراک کنندگان

- Discuss Action plan how to introduce and establish a first step QC for Water testing labs in Afghanistan







# Groundwater samples from Kabul city during 2004-2009

N a m e o f organization	N o . o f samples	Location	Location of analyzing	Types of the wells	Years
Afghan & BGR project	223	K a b u l City	BGR, ,German y	Shallow and deep wells	2004-2005
D A C A A R project	65	K a b u l City	Kabul	Shallow and deep wells	2005-2008
USGS project	126	K a b u l City	USA	Shallow and deep wells	2006-2008
JICA project	15	K a b u l City	Japan	Deep wells	2007-2008
Author project	37	K a b u l City	University of Bonn Germany	Shallow and deep wells	2007-2009

# More workshop than training course – basic issues

- The whole purpose is to develop consensus among participants that we will all be more professional and our results more trustworthy if we establish a quality control system for the lab.  
هدف نهایی انکشاف اجماع عمومی بین اشتراک کنندگان - راه یافتن به مسلکی شدن و نتایج قابل اعتماد در صورت ایجاد سیستمهای کنترل کیفیت
- QC is difficult to impose on people, we have to agree that this is the way forward to become professional.  
مشکل تحمیل کنترل کیفیت بالای مردم، یگانه راه حل مسلکی شدن است
- IF WE ACCEPT WE HAVE A PROBLEM, THEN WE CAN FIND SOLUTIONS.
- IF WE DO NOT THINK WE HAVE A PROBLEM THEN THERE WILL BE NO CHANGE.

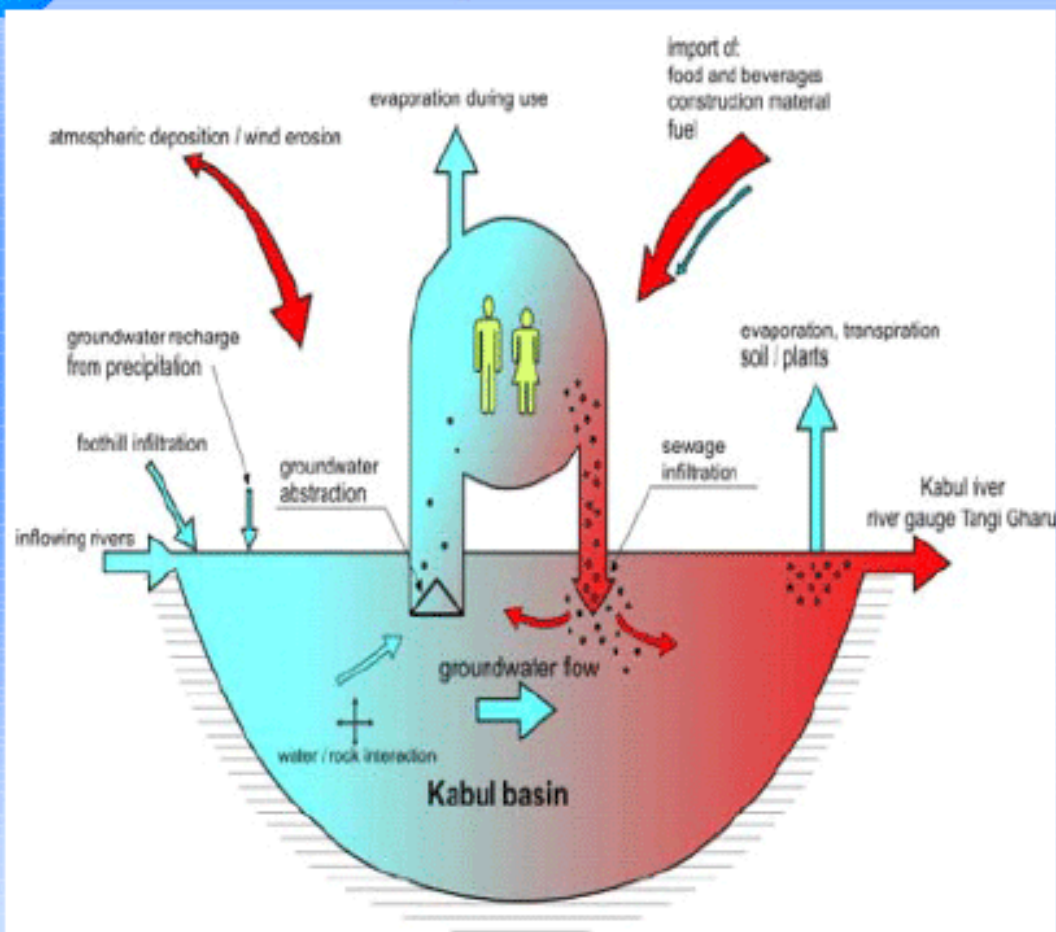
# Work method

1. Though lab work, we will see how much the results may vary when different participants do same analysis of same sample in the lab to establish consensus of needs for improvement

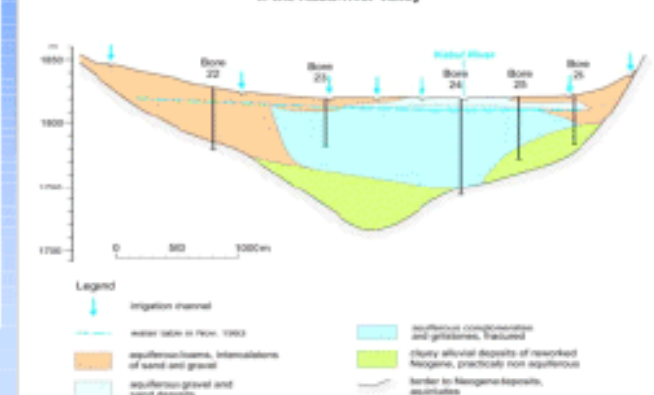
مشاهده فرق آنالیز عین نمونه در بین نتایج لابراتوار های مختلف ضرورت ایجاد کنترل کیفیت

1. Presentation of ideas for QC systems
2. Discussions to QC systems appropriate for Afghanistan
3. Agree on areas of QC areas to adapt in now
4. Agree in Next steps, and implementation of QC system

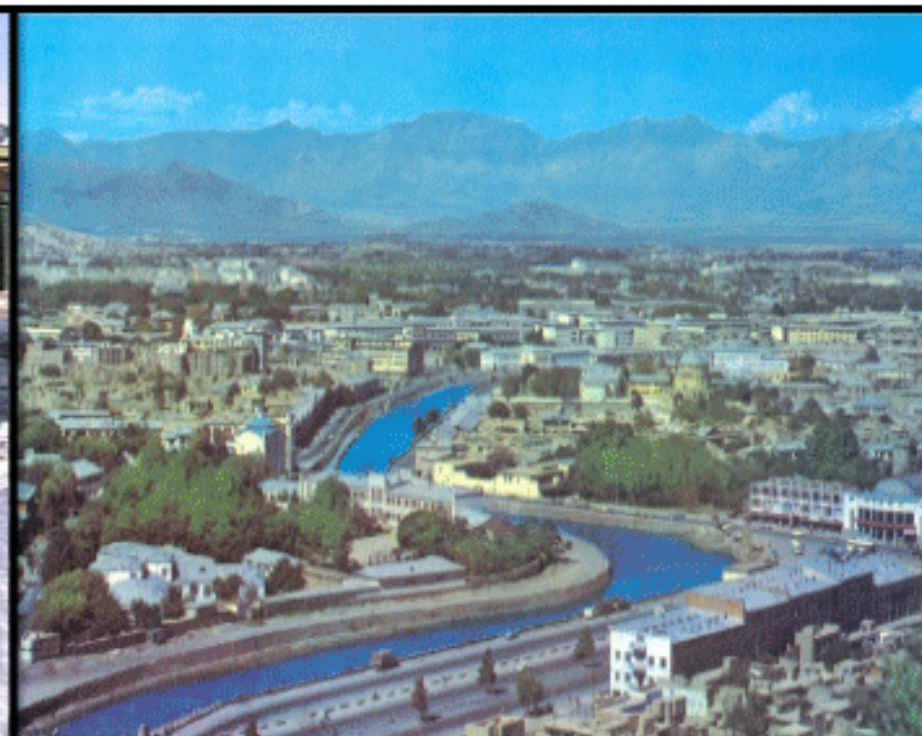
# Causes of groundwater contamination in Kabul city



schematic hydrogeological cross section of the Kabul river valley







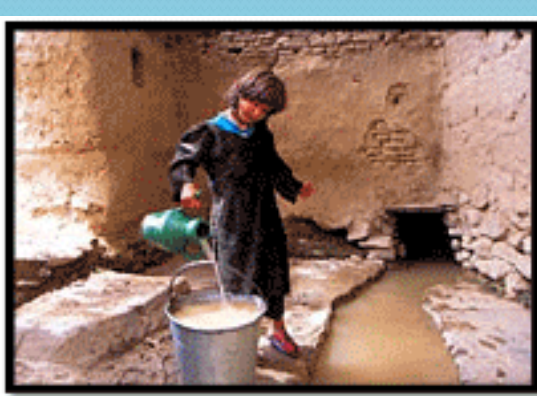
# Presenters and lab work.

- Sabour from UNICEF and Dr. Stoveland from NORPLAN will be key resource persons for facilitate the course.
- Lab staff from RuWatSIP and DACAAR labs will assist during lab practical's.
- Practical's will be conducted before and after awareness discussions of QC systems.



Ready for analysis, do we follow  
correct methods and procedures?





Thank you

