



Presented by Svein Stoveland, Norplan

MRRD- RuWatSIP, NORAD funded Project

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



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Project summary objective

To develop *capacity* so that MRRD and other Afghan stakeholders can survey, map, analyse and publish information of ground water resources so that water supply staff can find water to provide all people with access to safe drinking water.



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Specific Objectives

Enhance the capacity of MRRD RuWatSip Dept staff and the PRRD staff in conducting investigations and surveys of underground water through HGS. In this regard Faryab will serve as a pilot province.

Improve the capacity of MRRD and PRRD technical staff in conducting water quality testing, drilling technologies, and working with the existing management information system (MIS), etc.

Enable MRRD and PRRD staff

- To plan and conduct studies of groundwater in consultation with MoM.

- To improve their technical knowledge and expertise in water supply designs, survey, MIS, GIS, water quality, water treatment and ethical project management.



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RUWATSIP, MRRD

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DEVELOPMENT OF METHODS

PROJECT ACTIVITIES

TRAINING & CAPACITY BUILDING

OUTPUTS

Design hydrogeological methods

Design Database / GIS-MIS system

Prepare methods for use of hydrogeo data in water supply planning and design

Collect data about ground water resources, desk study, field survey

Data analysis, make GIS & Web ground water user maps

Use maps to plan/ design good rural water supplies

About 25 short courses run twice practical/theoretical

3 geophysical investigations
8 hydrogeology

5 GIS -database software
2 data capture/managem

3 Plan. WS using maps
5 WS technology & design
2 O&M, managem, social

- 200 - 400 persons trained
- Provincial hydrogeological survey methodology developed
- Hydrogeological survey for Faryab province (pilot)
- Database for hydrogeological data set
- GIS Hydrogeological mapping system for pc and paper maps
- Web "Water Use Atlas"
- Capacity building in MRRD RuWatSIP and sector agencies
- Survey and prelim design WS for 3 towns

NORAD Support to MRRD, RUWatSIP for Capacity-Building and Institutional Cooperation in the Field of Hydrogeology for Faryab Province, Project



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National activities with Faryab at pilot province



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All info on Web
www.norplan.af



Norplan in Afghanistan from 2012

HOME OBJECTIVE ACTIVITIES OUTPUTS FARYAB GENDER KEY ACTORS NEWS CONTACT US

RuWatSIP STAFF COORDINATION HYDROGEO. GIS-MIS WAT-SAN TRAINING MANAGEMENT PROGRESS

CAPACITY BUILDING AND INSTITUTIONAL COOPERATION IN HYDROGEOLOGY WITH MRRD FOR PILOT PROVINCE FARYAB

 Picture Gallery  Short Videos Training  R & D Technology  Thematic Illustrations



News heading

[more news](#)

[More that 200 now trained](#)

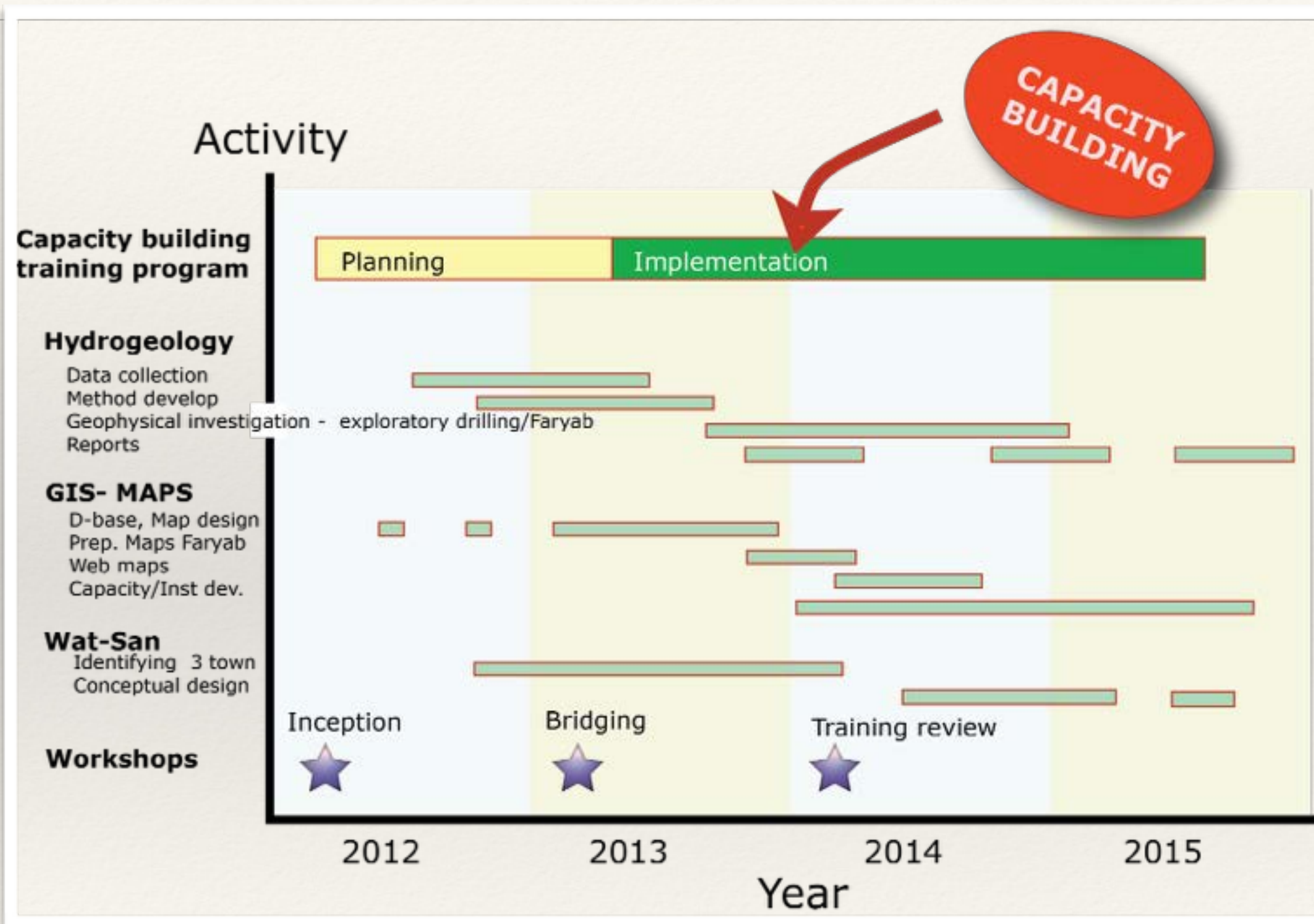
Project Summary

The project has focus on implementing a hydrogeological survey in Faryab Province, using that province as a pilot area to develop a methodology for provincial hydrogeological mapping. With the methodology developed, train RuWatSIP/MRRD and key Rural Water water supply and sanitation sector actors) so that a the rest of the provinces can later be covered by the ministry using trained staff, developed hydrogeolocial GIS maps and a developed web water user atlas for ground water. The field work and pilot area is Faryab province while the methologies and capacitieis will be focussed much on National level sector developmen



Searching for Good Ground Water for New Water Supplies i Rural Areas

Overview of time schedule



FOCUS ON CAPACITY BUILDING & TRAINING



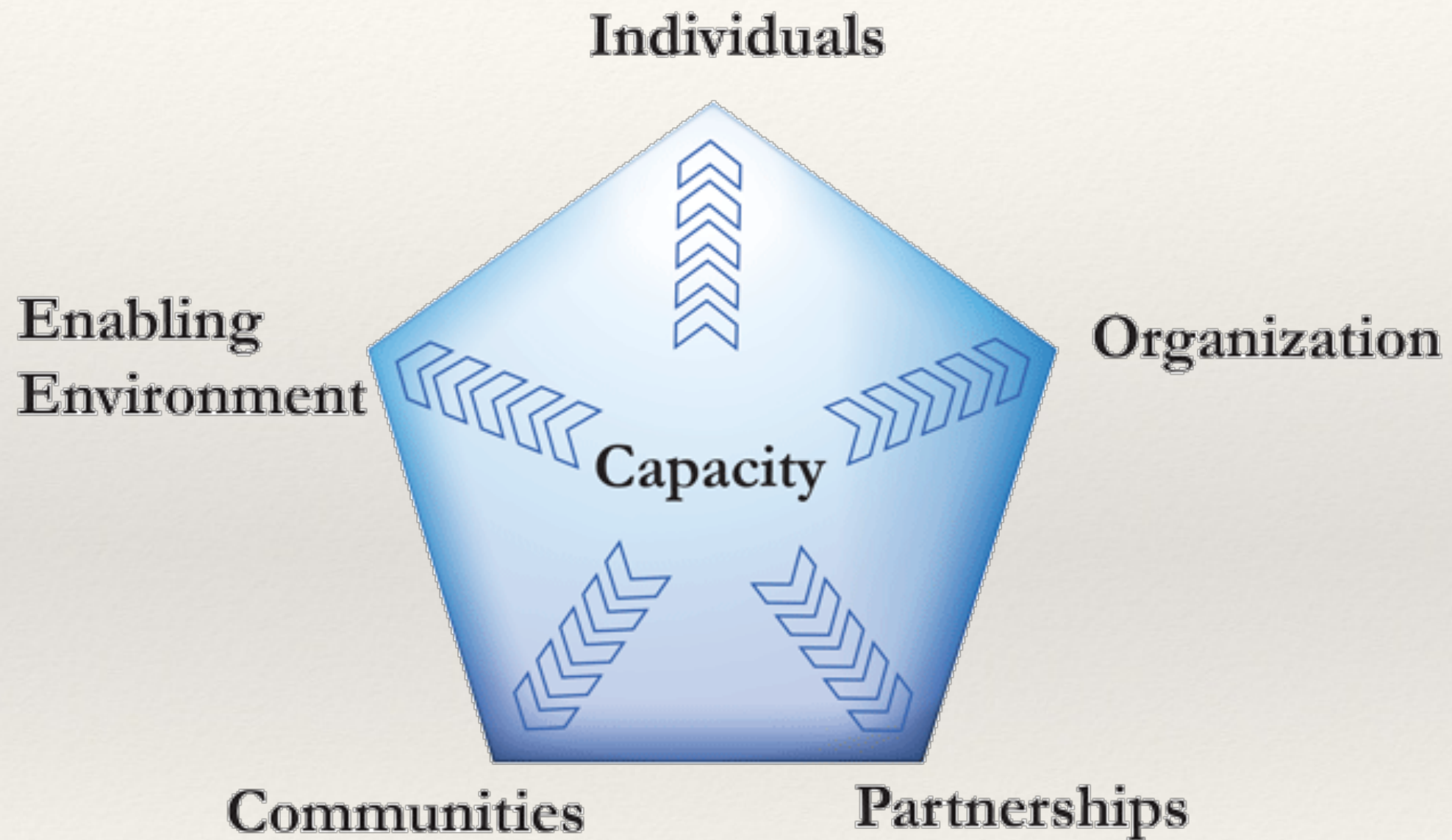
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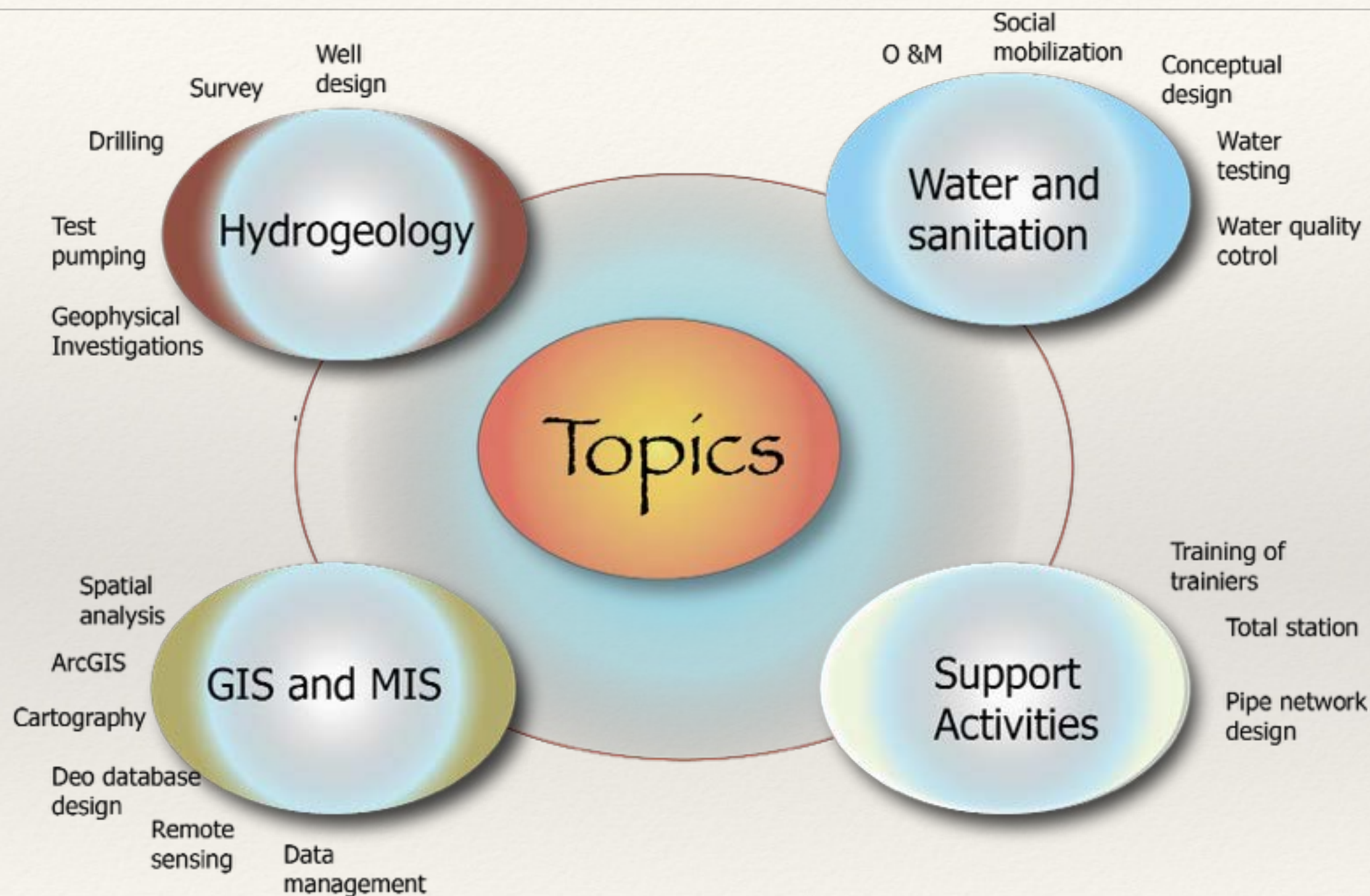
- ❖ Training of individuals
- ❖ Make / design courses
- ❖ Develop methods for use nationwide
- ❖ and more.....



CAPACITY BUILDING



Themes for training



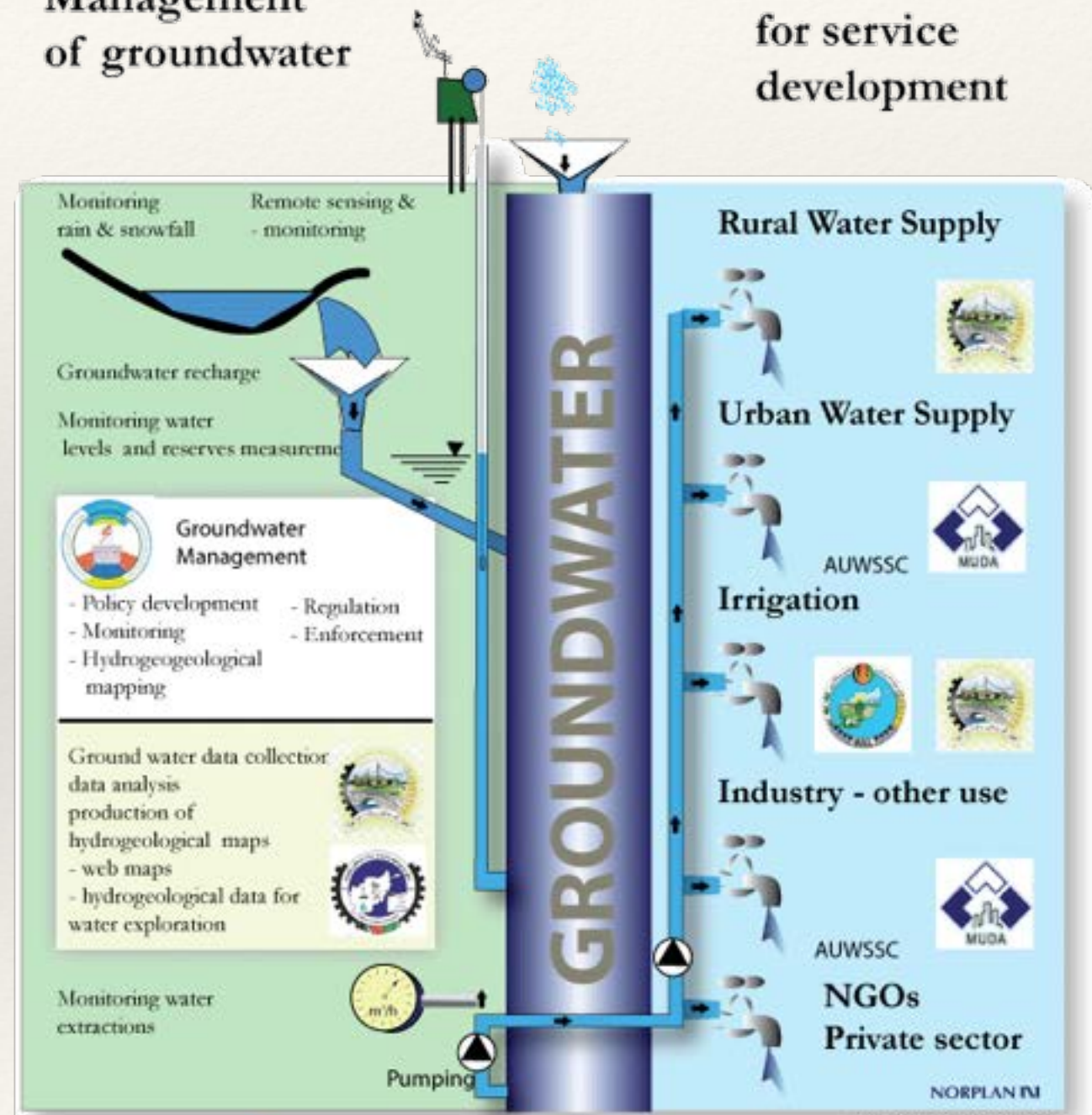
Stakeholders

Groundwater resources

Users and producers of important information of government ministries and organizations.

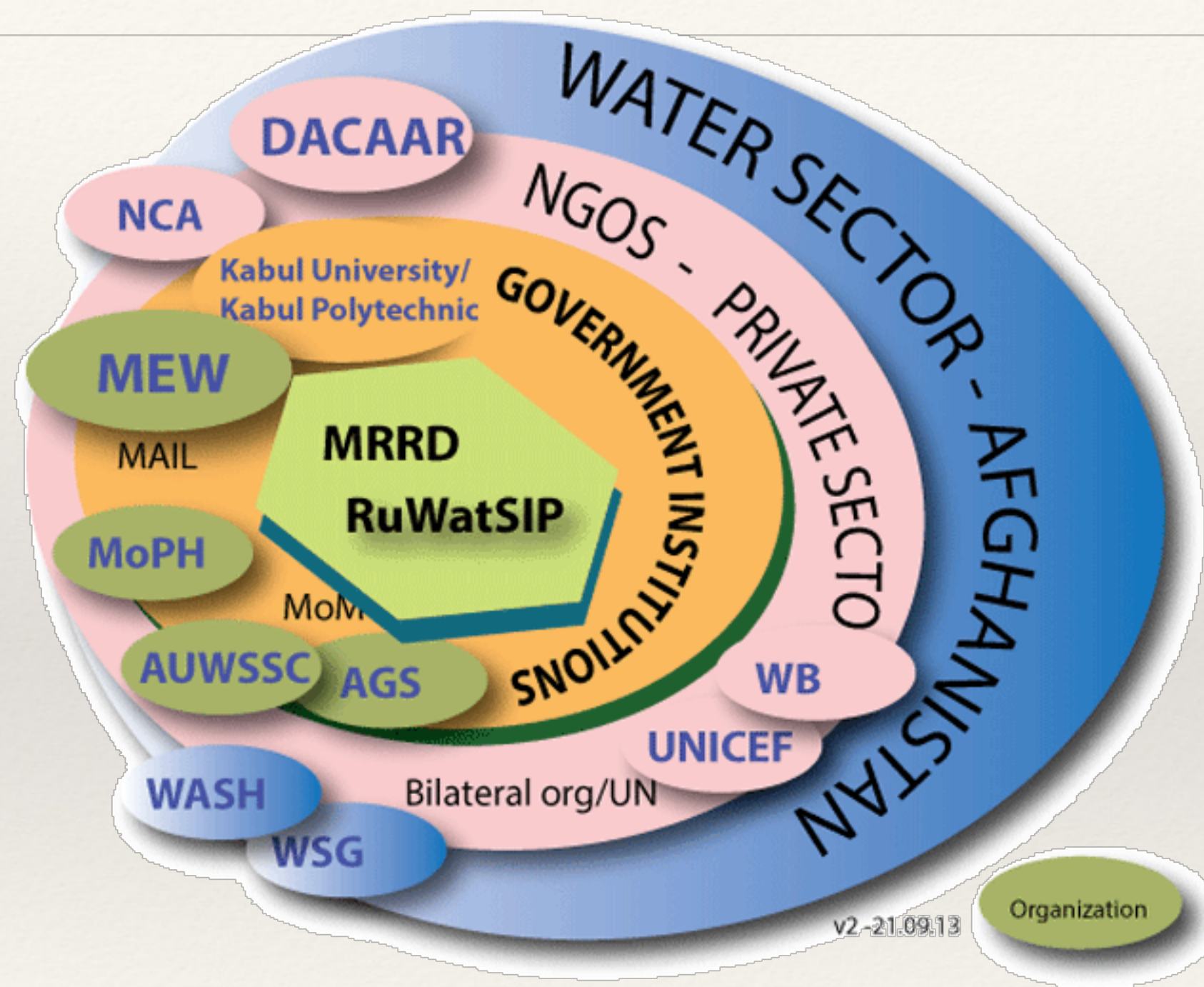
Management of groundwater

Water use for service development



Draft document - unofficial - 5.12.13

Key project stakeholders



Development of Training program and courses - and revisions undertaken



Inception Workshop



Bridging workshop

Training
Matrices

[Click to see
details \(pdf\)](#)

A screenshot of a training matrix table with multiple columns and rows, showing the initial course plan.

Course plan April 2012,
Inception

A screenshot of a training matrix table, showing updates from the first course and the engagement of an additional expert.

Course plan May 2013, After
first course and engagement of
addn. expert de Jong.

A screenshot of a training matrix table, showing the final revised program.

Training plan as of
February 2014

**Revised
program
2014**





Lorem Ipsum Dolor

Looking back - last 2 years

February 2012:
Inception Workshop:



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Lorem Ipsum Dolor

Bridging Workshop

11 February 2103



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Training calendar prepared updated

PROPOSAL

Training Calendar 2013

Revised 02 February 14/Prof.Eqar

Training Calendar 2013																																																				revised 02 february 14/Prof.Eqar											
Month	January				February				March				April				May				June				July				August				September				October				November				December																		
Week no	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52											
Date of first day of week	5	12	19	26	2	9	16	23	2	9	16	23	30	6	13	20	27	4	11	18	25	1	8	15	22	29	6	13	20	27	3	10	17	24	31	7	14	21	28	5	12	19	26	2	9	16	23	30	7	14	21	28											
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Training Calendar 2014

Month	January				February				March				April				May				June				July				August				September				October				November				December							
Week no	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52
Date of first day of week	4	11	18	25	1	8	15	22	1	8	15	22	29	5	12	19	26	3	10	17	24	31	7	14	21	28	5	12	19	26	2	9	16	23	30	6	13	20	27	4	11	18	25	1	8	15	22	29	6	13	20	27
Saturday							Lib				4.12	1.8	1.8			4.5			4.4			1.2	1.7		1.9	6.2		5.3				4.7			5.1	1.4			2.5	4.8					1.3		2.5	3.1				
Sunday				4.11	1.10						4.12	1.8	1.8			4.5			4.4			1.2	1.7		1.9	Ram		5.5	5.3			5.6			5.1	1.4	5.4		Adh	2.5	4.8				1.3		2.5	3.1				
Monday				Pro							5.7	4.13	1.8			4.5			4.4			5.2	1.2	1.7		1.9		5.5			5.6				5.1	1.4	5.4		Adh	2.5	4.8				1.3		2.5	3.1				
Tuesday				4.11	1.10						5.7	4.13	1.8			4.6						5.2	1.2	1.7		1.9		5.5			5.6				5.1	1.4	5.4		Adh	2.5	4.8				1.3		2.5	3.1				
Wednesday				4.11	1.10						6.4		1.8			4.6						5.2	1.2	1.7		1.9		5.5			5.6				5.1	1.4	5.4		Adh	2.5	4.8				1.3		2.5	3.1				
Thursday													1.8																																		2.3	2.5	3.1			
Friday																																																2.3	2.5	3.1		

Training Calendar 2015

Month	January					February				March				April				May				June				July				August				September				October				November				December																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					
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Key code:
Public holidays

Hydrogeology I (Norplan)

- 1.1 Groundwater investigation
- 1.2 Geophysical survey, 7 daysx2
- 1.3 Well drilling methods, 4 daysx2
- 1.4 Water well design and completion, 5 daysx2
- 1.5 Well hydraulics, 7 daysx2
- 1.6 Hydrochemistry, interpretation of data
- 1.7 Planning and implementation of provincial hydrogeologic survey
- 1.8 Geophysical borehole logging, planning and interpretation of data
- 1.9 Geophysical borehole logging interpretation of data
- 1.10 well construction and pumping test (KAE)

Hydrogeology II (DACAAR)

- 2.1 Interpretation of data, 5 daysx2
- 2.2 Preparing thematic maps, 5 daysx2
- 2.3 Water quality testing and GPS use in the field
- 2.4 Practical Geophys. Investig. and Siting-in the province
- 2.5 Well construction and pumping test (Province)
- 2.6 Pumping test and data collection of exploratory well (Faryab)

Training of trainers (DACAAR)

- 3.1 Training methods, 2 daysx2
- 3.2 Best practice, 2 daysx2
- 6.1 National hydrogeological conference
- 6.3 national conference in GIS and web.tool

Key points

GIS

- 4.1 ArcGIS Software Introduction
- 4.2 ArcGIS Databases
- 4.3 ArcGIS Spatial analyses
- 4.4 RGIS viewer administration, 3 days (Norplan)
- 4.5 RGIS viewer how to use, 1 day (Norplan)
- 4.6 RGIS design, 1 day (Norplan)
- 4.7 Data management, 5 days (Norplan)
- 4.8 Data capturing, 1 day (Norplan)
- 4.9 Cartography, 2 days (Norplan)
- 4.10 GIS for hydrogeologist
- 4.11 Remote sensing
- 4.12 Cartography-2
- 4.13 Data Management 2 (Excel & ACCESS)
- 6.2 Development of hydrogeological water atlas-half day
- 6.4 training course evaluation

Water and sanitation

- 5.1 Planning using water atlas, 2 daysx2 (Norplan)
- 5.2 Conceptual design 3 daysx2 (Norplan)
- 5.3 O&M 1 dayx2 (DACAAR)
- 5.4 Social aspects, WASH policy, 4 daysx3 (DACAAR)
- 5.5 Water network design 4 days (regional expert)
- 5.6 Totalstation, use of, 2 daysx2 (local expert Naseri)
- 5.7 Laboratory Quality Control-1



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Field work after training in Faryab



Where are participant from

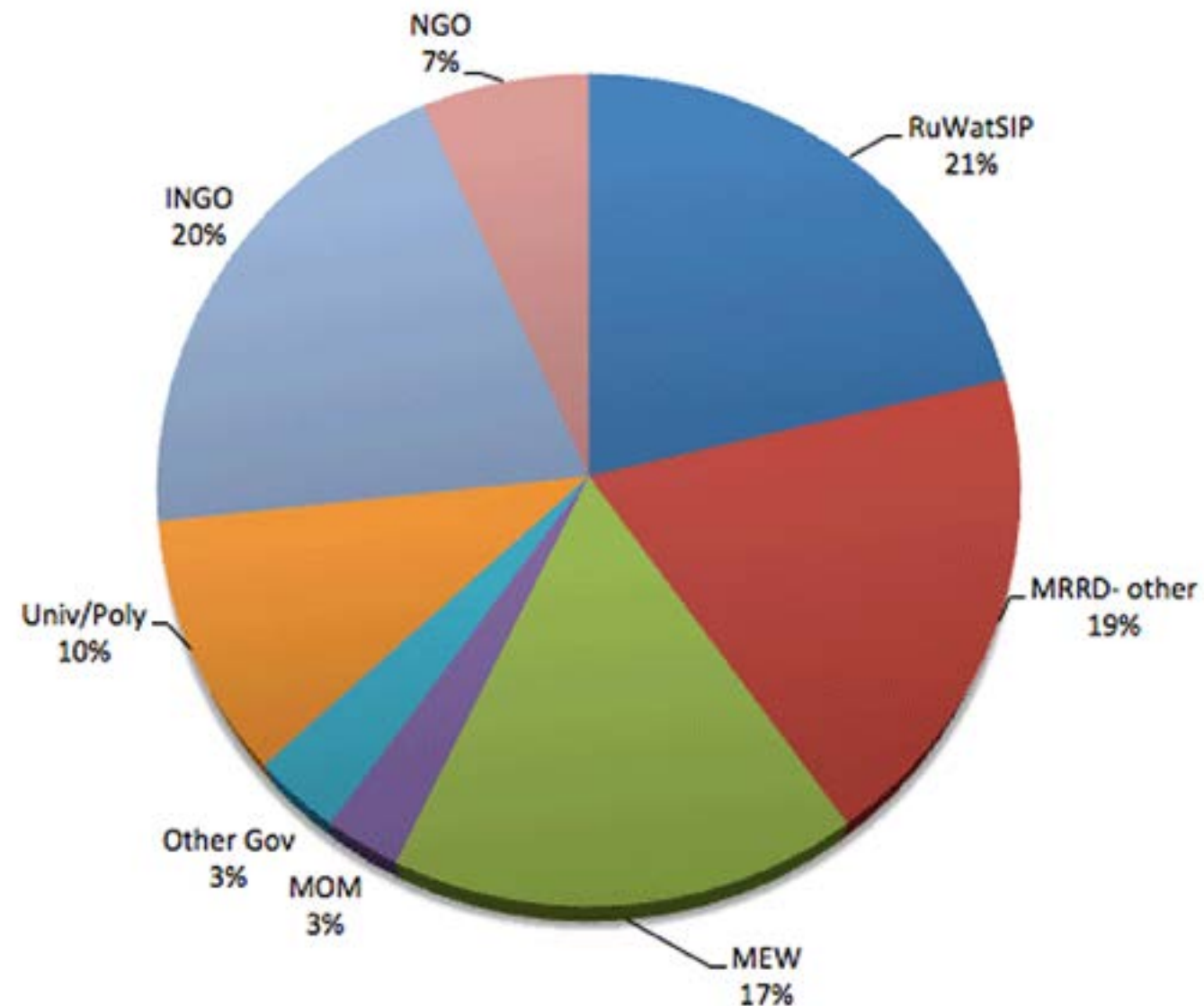


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- ❖ Pie showing where 409 participants came from
- ❖ 20 courses completed
- ❖ 220 different persons
- ❖ 190 male and 30 female

Background of 409 course participants attending 20 courses so far completed



Attendance at different courses

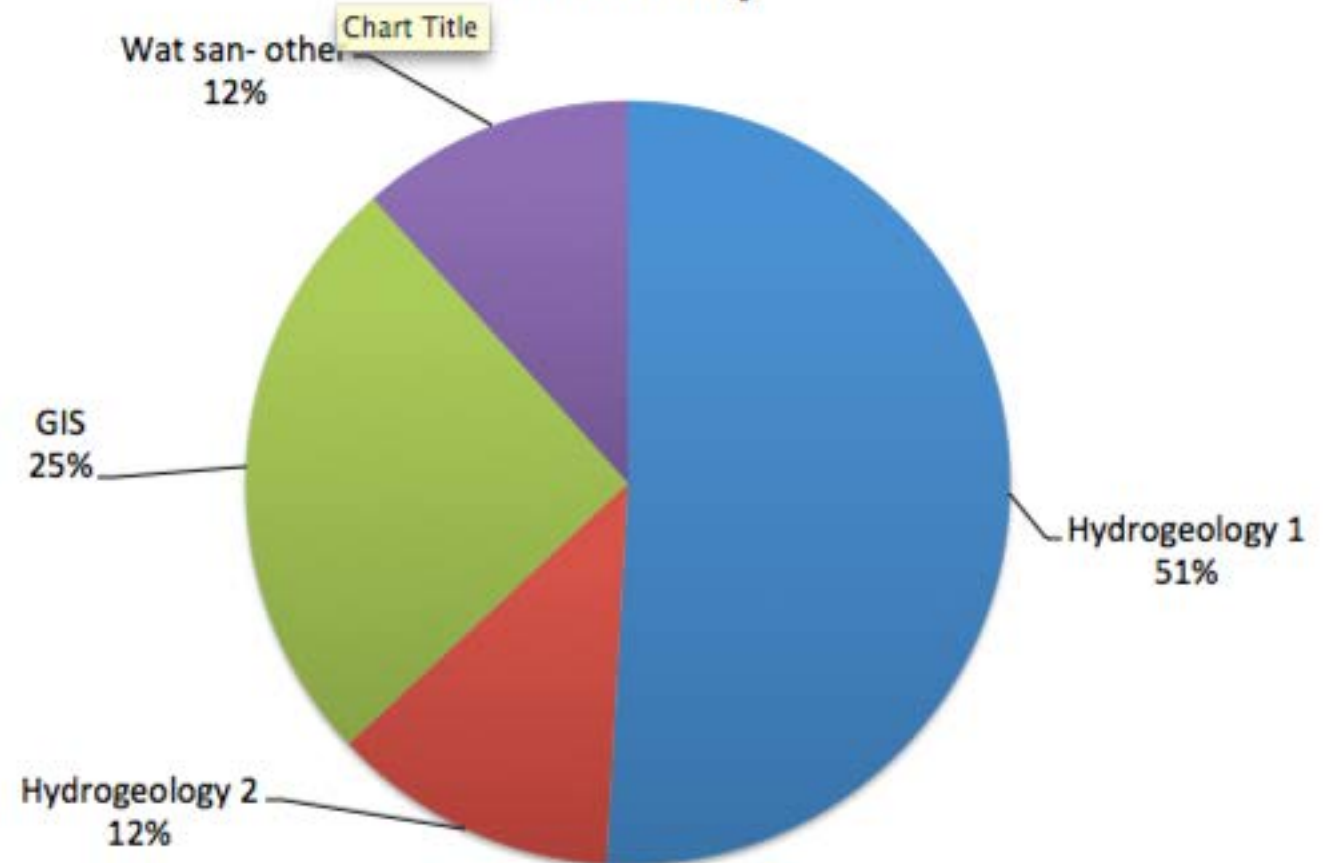


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- ❖ Note that some courses could start earlier than others..

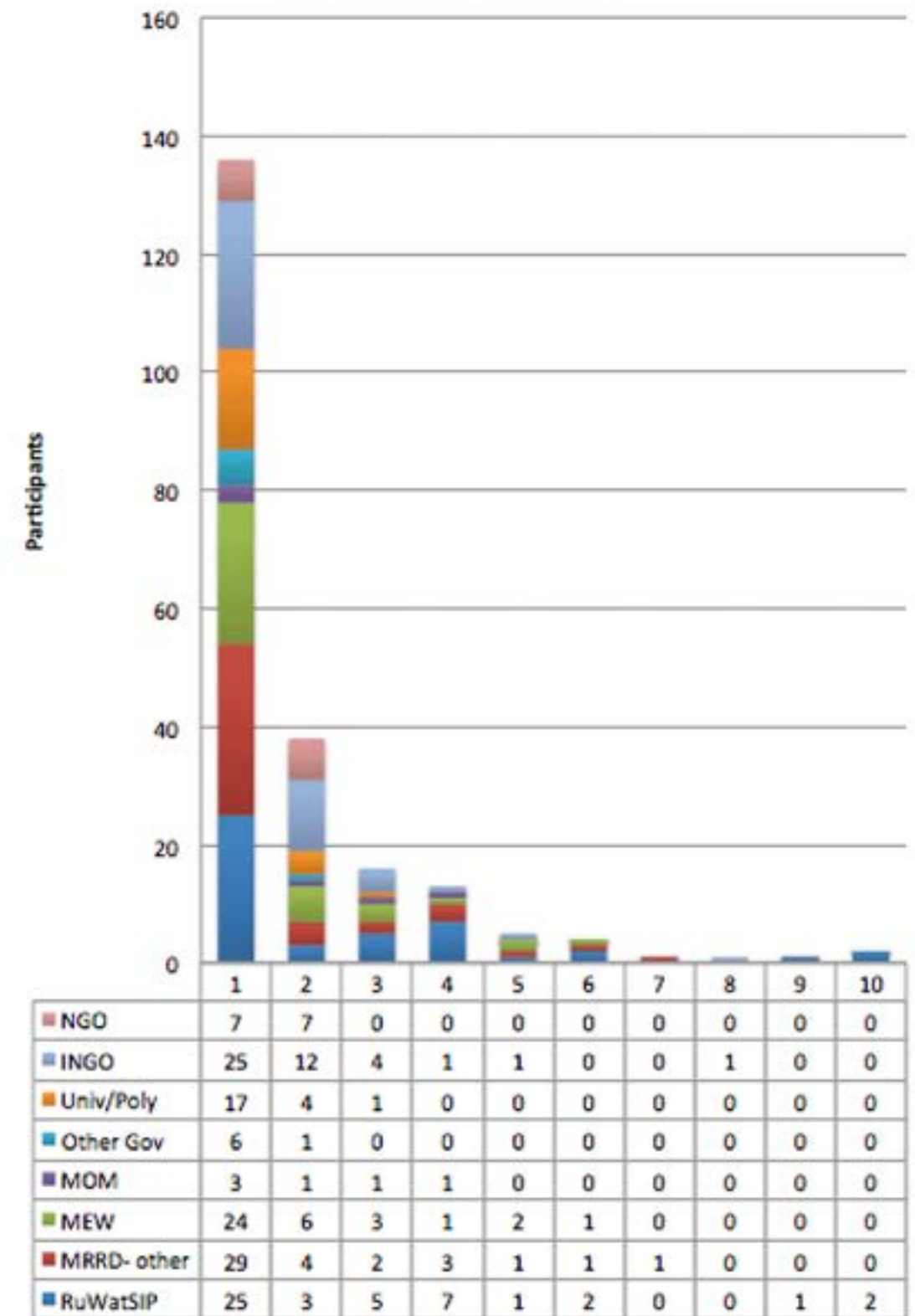
% age of course participants at different courses , (after 20 courses and 409 participants attended)



Number of courses attended

Graph showing who many people attended one of more source

Overview of number of courses taken by different participants



Time to review



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- ❖ Lessons learn so far?
- ❖ How can be improve
- ❖ New truing gaps identified?
- ❖ What is your advice and recommendations?

