

To

The Chairman, Central Ground Water Board,
Bhujal Bhawan, Fairdabad, Haryana.

Subject: Training Needs Analysis (TNA) in CGWB, Ministry of Water Resources, River Development & Ganga Rejuvenation, Government of India.

Dear Sir,

This is with reference to my telephonic talk with you on 31st July, 2016. I thank you for the interest shown by you in carrying out a TNA in our organisation.

I request you to fix my next meeting to discuss the process of TNA and the possible results to be achieved, with the aim of utilising trainings to improve the performance of newly joined Hydrogeologists of CGWB for the benefit of the organisation at large.

One thing I will ask you to agree during our first call will be Terms of Reference. These specify the purpose of the consultancy and define our respective roles so that we can agree to:

- * Set objectives to realistic expectations.
- * Define my role and how I shall carry out the consultancy.
- * Authorise access to relevant information.
- * Identify members of staff and others, who are likely to be involved in training activities that may result from the consultancy.

It's probably worth stressing that the consultancy is carried out in strict confidence.

Yours sincerely,
(Dr V S Joji)

Raipur,
Sc.D, RGI,
01.08.2016.

Annexure I: Terms of reference.

Day & Time	Objective	Content	Method	Media	Trainer	Performance Aid	Timing (min.)	Assessment
1(10:00-10:30)	Registration of the trainees							
1(10:30-11:15)	Inaugural Session							
1(11:15-11:30)	Tea break							
1(11:30-12:45)	TO-1 EO-1	Introduction: Basic concept on ground water and terminology associated with topo sheets and geological map	Lecture	Power-Point Presentation, white CGWB writing	Superintending Hydrogeologist	None	75	Formative Assessment by MCQ
1(12:45- 14:00)	Lunch break							
1(14:00- 15:15)	TO-1 EO-1	Preparation of base map: identifying and selecting features from topo sheets and geological map and superimposing selected features into the base map	Demonstration	Topo sheet, geological map, tracing sheet, other stationery	Superintending Hydrogeologist	None	75	Formative Assessment
1(15:15-15:30)	Tea break							
1(15:30-16:45)	TO-1 EO-1	Preparation of base map identifying and selecting features of topo sheet and geological map	Coaching	Topo sheet, geological map, tracing sheet (stationery)	Superintending Hydrogeologist assisted by two Sr. Hydrogeologists	None	75	Formative Assessment

1(16:45-17:00)	Group discussion with trainees							
2(10:00-11:15)	TO-1 EO-1	Guidelines on number of wells to be established for water sample collection and well inventory.	Lecture	Power-Point Presentation, white CGWB writing	Superintending Hydrogeologist	None	75	Formative Assessment
2(11:15-11:30)	Tea break							
2(11:30-12:45)	TO-1 EO-2	Exercise for no. of wells to be established for water sample collection and well inventory details	Coaching in field	Note book, exercise question and maps	Superintending Hydrogeologist assisted by two Sr. Hydrogeologists	Well inventory forms	75	Formative Assessment
2(12:45-14:00)	Lunch break							
2(14:00-15:15)	TO-1 EO-3	Use of GPS & measuring tape in field	Coaching	GPS and measuring Tape	Superintending Hydrogeologist assisted by two Sr. Hydrogeologists	GPS Manual	75	Formative Assessment
2(15:15-15:30)	Tea break							
2(15:30-16:45)	TO-1 EO-4	Field data collection (latitude, longitude, well inventory details)	Coaching	GPS, measuring tape, well inventory forms and writing pad	Superintending Hydrogeologist assisted by two Sr. Hydrogeologists	Manual on Field survey	75	External validation
2(16:45-15:00)	Interaction with trainees							

3(10:00-11:15)	TO-2 EO-1	Introduction: Ground Water Modelling, Conceptual modelling, Finite difference solution to 3D ground water flow equation, USGS MODFLOW Software Design and Conceptualization	Lecture	Power-Point Presentation, white CGWB writing	Superintending Hydrogeologist		75	Formative Assessment by MCQ
3(11:15-11:30)	Tea break							
3(11:30-12:45)	TO-2 EO-1	Familiarization with Visual MODFLOW	Lecture	Power-Point Presentation, white CGWB writing	Superintending Hydrogeologist		75	Formative Assessment by MCQ
3(12:45-14:00)	Lunch break							
3(14:00-15:15)	TO-2 EO-1	Introduction to Software and its functions. Demonstration case - Analytical and numerical solutions	Coaching & demonstration	Computers loaded with software	Superintending Hydrogeologist assisted by two Sr. Hydrogeologists	Manual on Software	75	Formative Assessment
3(15:15-15:30)	Tea break							
3(15:30-16:45)	TO-2 EO-1	Hands on with Netravati data on Visual MODFLOW Modelling	Coaching	Computers loaded with software	Superintending Hydrogeologist assisted by two Sr. Hydrogeologists	Manual on Software	75	Formative Assessment

3(16:45-15:00)	Interaction with trainees							
4(10:00-11:15)	TO-2 EO-1	Hands on with Airport data on Visual MODFLOW	Coaching	Computers loaded with software	Superintending Hydro geologist assisted by two Sr. Hydrogeologists	Manual on Software	75	Formative Assessment
4(11:15-11:30)	Tea break							
4(11:30-12:45)	TO-2 EO-1	Hands on with Valley Data on Visual MODFLOW	Coaching	Computers loaded with software	Superintending Hydrogeologist assisted by two Sr. Hydrogeologists	Manual on Software	75	Formative Assessment
4(12:45-14:00)	Lunch break							
4(14:00-15:15)	TO-2 EO-2	Introduction: Strategies regarding ground water problems with respect to ground water perspectives	Lecture and coaching	Power-Point Presentation, white CGWB writing. Computers loaded with software	Superintending Hydrogeologist assisted by two Sr. Hydrogeologists	Manual on Software	75	Formative Assessment
4(15:15-15:30)	Tea break							

4(15:30-16:45)	TO-2 EO-3	Introduction: Strategies regarding ground water management options and future strategies for effective ground water management and planning	Lecture and coaching	Power-Point Presentation, white CGWB writing. Computers loaded with software	Superintending Hydrogeologist assisted by two Sr. Hydrogeologists	Manual on Software	75	Formative Assessment
4(16:45-15:00)	Interaction with trainees							
5(10:00-11:15)	TO3	Open house discussion, use of software and preparation of maps	Coaching	White CGWB, Flip charts, computer system	Superintending Hydrogeologist assisted by two Sr. Hydrogeologists		75	Various components are used by trainees.
5(11:15-11:30)	Tea break							
5(11:30-12:45)	TO3	Open house discussion, use of software and preparation of maps	Coaching	White CGWB, Flip charts, computer system	Superintending Hydrogeologist assisted by two Sr. Hydrogeologists		75	Various components are used by trainees.
5(12:45-14:00)	Lunch break							
5(14:00-15:15)	Evaluation of Programme by Slip test/MRQ							
5(15:15-15:30)	Tea break							
5(15:30-16:30)	Feedback / IRQ							

Annexure II: Design details of the training.

<p>Strengths</p> <p>Govt. Organisation with established credibility.</p> <p>Well qualified Newly joined Hydrogeologists and Engineers recruited through UPSC.</p> <p>Sufficient fund available for R&D activities from MoWR</p> <p>Very good infrastructural facilities.</p> <p>Sufficient Faculty and establishment Staff at TI</p> <p>Highly qualified and resourceful Newly joined Hydrogeologists/Engineers</p> <p>Availability of Annual Work Plan & Progress Reports.</p>	<p>Opportunities</p> <p>If proper training is imparted Mathematical Modelling of Ground Water System by using Visual MODFLOW Software to the newly joined Hydrogeologists can be imparted.</p> <p>Aquifer map will promote proper management of ground water aquifer wise as well as region.</p> <p>Proper ground water management will enhance the per capita availability of water and increase in resources.</p> <p>This will lead to increase in food production and increase in standard of living of people.</p> <p>It will check drought as well as flood.</p>
<p>Weaknesses</p> <p>Newly joined Hydrogeologists lack of knowledge and skill for Mathematical Modelling of Ground Water System by using Visual MODFLOW Software because they are mainly field oriented.</p> <p>No adequate hydrogeological data analysis.</p> <p>As ground water is a challenging subject now a days the objectives are not prioritized with the need of the hour.</p>	<p>Threats</p> <p>Loss of the credibility of the institution for providing quality outputs.</p> <p>MoWR may reduce funds to the client organisation</p> <p>The Newly joined Hydrogeologists may leave CGWB for better career opportunities.</p> <p>The Newly joined Hydrogeologists may be shifted to some other assignment after developing the requisite</p>

<p>There is no proper transfer policy.</p> <p>Chairman is responsible for all administrative approval having office at Faridabad. This results in delay of taking decisions.</p> <p>Being an organisation having all India jurisdiction the work pattern in different regions is different.</p>	<p>expertise.</p>
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Annexure III: Data collected during SWOT analysis.