8.4 Groundwater Management

Lower Bari Doab Canal Improvement Project
Monthly Project Implementation Progress Report by Component : Groundwater Management
At the End of 31-Dec-16
Groundwater Management

	Activity/Sub-Activity	Unit	Total	Scheduled No.of Days to Complete	Days Elapsed	% Time Elapsed	Progress			
							Up to last month	During the month	Up to-date Progress (11+12)	Upto date % Progress (13/3×100)
1	**Restructuring of the GIS and the Groundwater Database**			**715**	**715**	**100.00**				
	1.Review of Existing Databases & other relevant sources	%	100	457	580	126.91	100.00		100.00	100.00
	2.Needs assessment for GIS Based Information System	%	100	61	183	300.00	100.00		100.00	100.00
	3. Design the required System (Data Model/Architecture)	%	100	61	183	300.00	100.00		100.00	100.00
	4. Hardware Procurement	Nos.	10	92	397	431.52	10.00		10.00	100.00
	5. Software Procurement	Nos.	5	92	550	597.83	5.00		5.00	100.00
	6. Implementation of GIS-IS Design	%	100	244	427	175.00	100.00		100.00	100.00
	7. Creating of Metadata	%	100	685	670	97.81	100.00		100.00	100.00
	8. Populating the Database with Information	%	100	685	685	100.00	100.00		100.00	100.00
	9. Provision of Training Materials and Manuals	Nos.	4	275	609	221.45	4.00		4.00	100.00
	10. Operation and Maintenance	%	100	624	624	100.00	100.00		100.00	100.00
	11. Support to Applications	%	100	380	380	100.00	100.00		100.00	100.00
2	**"Provision" of Additional Monitoring and Test wells**			**245**	**642**	**262.04**				
	1. Review of Existing Situation Monitoring and Pump Testing	%	100	153	153	100.00	100.00		100.00	100.00
	2. Identification of sites for New Monitoring and Test Wells	Nos.	20	153	550	359.48	20.00		20.00	100.00
	3. Well design / Specification of Equipment & Instrumentation	%	100	91	274	301.10	100.00		100.00	100.00
	4. Construction Phase	Nos.	done for LB							
	5. Operation Phase	Nos.								
3	**Delineate Areas Where Saline Intrusion is Taking Place**			**672**	**715**	**106.40**				
	1. Analysis of Data on Salinity and Water Quality	%	100	610	715	117.21	100.00		100.00	100.00
	2. Identification & Criteria Collation to Rank Saline Intrusion Risk	%	100	366	456	124.59	100.00		100.00	100.00
	3. Risk assessment Study	%	100	122	378	309.84	100.00		100.00	100.00
	4. Preparation of Salinity Risk Maps	%	100	153	181	118.30	100.00		100.00	100.00
4	**Recommend Solutions for Reversal of GW Deterioration**			**654**	**654**	**100.00**				
	1. Remedial Measures for Salinity Control and Reversal	%	100	488	654	134.02	100.00		100.00	100.00
	2. Remedial Measures for Groundwater Drawdown Control	%	100	624	609	97.60	100.00		100.00	100.00
	3. Production of a Monograph and Maps for GW Degradation	%	100	154	212	137.66	100.00		100.00	100.00

5	**Develop-Calibrate-Operate a Groundwater model**			**715**	**700**	**97.90**				
	1. Elaboration of Application(s) of the Model	%	100	61	183	300.00	100.00		100.00	100.00
	2. Choice of Software	Nos.	4	61	122	200.00	4.00		4.00	100.00
	3. Design Suitable Data Model for Linkage to GIS	%	100	91	183	201.10	100.00		100.00	100.00
	4. Data Gathering	%	100	457	549	120.13	100.00		100.00	100.00
	5. Model Conceptualization	%	100	244	549	225.00	100.00		100.00	100.00
	6. Model Calibration	%	100	396	486	122.73	100.00		100.00	100.00
	7. Application of Model for the Project Purposes	%	100	624	609	97.60	100.00		100.00	100.00
6	**Evaluate Local Well Drilling and Construction Practice**			**519**	**626**	**120.62**				
	1. Evaluation Of Well Drilling And Construction Practice	%	100	123	366	297.56	100.00		100.00	100.00
	2. Set Specifications For Achieving 'Best Practice'	%	100	123	458	372.36	100.00		100.00	100.00
	3. Develop Training Materials	Nos.	5	122	428	350.82	5.00		5.00	100.00
	4. Prepare And Present Courses, Presentations	Nos.	5	304	394	129.61	5.00		5.00	100.00
	5. Carry Out On-the-Job Training	Nos.	5	275	473	172.00	5.00		5.00	100.00
	6. Propose A Certification Process	%	100	61	273	447.54	100.00		100.00	100.00
7	**Introduce Improved Well technologies, Well Logging**			**397**	**625**	**157.43**				
	1. Introduction of Improved Well & Well Logging Techniques	%	100	397	581	146.35	100.00		100.00	100.00
	2. Assessment of What Needs Monitoring, Who Needs it & Why	%	100	62	609	982.26	100.00		100.00	100.00
	3. Practicalities of Real Time Monitoring Data Transfer	%	100	62	625	1008.06	100.00		100.00	100.00
8	**Workshops**			**639**	**792**	**123.94**				
	1. Groundwater modeling and GIS	Nos.	7	396	549	138.64	7.00		7.00	100.00
	2. Groundwater monitoring	Nos.	5	609	762	125.12	5.00		5.00	100.00
9	**Policy Options and Regulatory Framework**			**166**	**168**	**101.20**				
	1. Review irrigation activities in LBDC	%	100	166	151	90.96	100.00		100.00	100.00
	2. Develop scenarios for addressing GW degradation	%	100	166	151	90.96	100.00		100.00	100.00
	3. Develop information requiremnents for agreed scenarios	%	100	166	151	90.96	100.00		100.00	100.00
	4. Review GOP and Punjab policies, strategies and actions on GW	%	100	166	153	92.17	100.00		100.00	100.00
	5. Appraisal of existing law; propose variations; suggest measures for	%	100	105	107	101.90	100.00		100.00	100.00
	6. Prepare strategy and action plan	%	100	135	137	101.48	100.00		100.00	100.00