

Sector : AGRICULTURE

Sub-Sector:IRRIGATION
AnalysisActivity :Equipments for Water and Soil
and Monitoring of Environmetel

Priority Within the Sector:First

Degradation
Total requested fund : _____

CODE	ItemDescription and its complementary items(if applicable)	Intended use (and targeted end	Qty In unit	Requested fund US\$ (000)	Allocation Criteria	Time frame	
						Optimal application	Optimal delivery
05-10-00001	Water And Soil Analyses Equipment's And Materials.See App. 10A codes 00003-00058	Improvement of water,material and soil analyses erocesses .(Soil,material test and water quality monitoring in all 15 Governorates)	As stated in App. 10A		Resemble requirement for repairs and replacement	ALL YEAR	AS SOON AS POSSIBLE
05-10-00002	Soil mechanics and construction laboratories apparatus See App.10A codes 00059-00114	Improvement of soil mechanics and construction laboratories and testing in all 15 Governorates	As stated in App. 10A		Resemble requirement for repairs and replacement	ALL YEAR	AS SOON AS POSSIBLE

APPENDIX 10 A .
WATER AND SOIL ANALYSIS EQUIPMENTS

CODE	DESCRIPTION	QUANTITY	UNIT OF MEASURE				
05-10-00003	PH checker stick model	10					
05-10-00004	Bench PH meter	25					
05-10-00005	Water proof , auto ranging conductivity /TDS/C? meter	10					
05-10-00006	conductivity meter with platinum probe different ranges	50					
05-10-00007	Dissolved oxygen meter	5					
05-10-00008	Water proof& rugged thermistor thermometer	10					
05-10-00009	Colorimeter	5					

05-10-00010	Turbidity meter	2					
05-10-00011	Relative humidity meter	2					
05-10-00012	Water bath	6					
05-10-00013	Shaking Water bath	2					
05-10-00014	Titration Burette , digital rate electronic	25					
05-10-00015	High speed centrifuge	2					
05-10-00016	Chemical calculator	10					
05-10-00017	Incubator	1					
05-10-00018	Binocular microscope	2					
05-10-00019	Atomic absorption spectrop - photometer	1					
05-10-00020	Hotplate	6					
05-10-00021	Shakers	4					
05-10-00022	Hallow cathode(lamps) for Atomic absorption	32					
05-10-00023	Block heaters	1					
05-10-00024	Mills	1					
05-10-00025	General purpose augres	30					
05-10-00026	Clay augres	20					
05-10-00027	Sand augres	20					
05-10-00028	Augres extension 34?	30					
05-10-00029	Augres extension 44?	30					
05-10-00030	Hand grips	10					
05-10-00031	Acid transfer Hand pumps	10					
05-10-00032	Density meters	2					
05-10-00033	Protein tester	2					
05-10-00034	Pressure ceramic plate	40					
05-10-00035	Beakers	300					
05-10-00036	Bottles	1000					
05-10-00037	Bottles carboys	45					
05-10-00038	Washing Bottles	150					
05-10-00039	Filter paper (different grades and diameters)	2000	box				

05-10-00040	- Membrane filter size 47	200	box				
05-10-00041	Pipettes	250					
05-10-00042	Pipettes fillers	200					
05-10-00043	Respirators	10					
05-10-00044	Chemical reagents * Sodium Salicylate * Sulfanyl amide DF1- B-7 * Sulfuric Acid Analar 98% *Acetone Analar *Cadmium chloride *Ammonium Acetate	30 10 200 200 5 100	Kg Kg L L Kg Kg				
05-10-00045	Tubing	150	m length				
05-10-00046	Spatulas	60					
05-10-00047	electronic pentograph	2					
05-10-00048	Gouch crucible glass	50					
05-10-00049	Normal sols	2000	ampul				
05-10-00050	Indoor & outdoor weather monitoring system	16					
05-10-00051	Parafilm	60					
05-10-00052	Flame photometer	6					
05-10-00053	Insulation measuring device	23					
05-10-00054	River discharge measurement station & current meter	150					
05-10-00055	Centralised Monitoring system for Dams , Barrage& major Irrigation Intake	1	set				
05-10-00056	Computer with all accessories	120					
05-10-00057	Color laser printer size (A3)	2					
05-10-00058	Color scanner high reselution	2					
05-10-00059	Mastic test equipment according to ASTM D1851	1					

05-10-00060	Apparatus for determining the liquid limit and plastic limit of soils according to AASHTO T-89	1					
05-10-00061	Compactor machine for Asphalt concrete , (Marshall specimens)	2					
05-10-00062	Electric Asphalt penetration test apparatus according to ASTM D5	1					
05-10-00063	Needle for penetration test of Asphalt according to ASTM D5	50					
05-10-00064	Asphalt core cutting machine, diesel engine, speed 424 R/M.	1					
05-10-00065	Core cutters diameter 4 in and 6 in	150					
05-10-00066	Precision balance capacity (210 gm), readability(0.0001 gm)	10					
05-10-00067	Precision balance capacity (810 gm), readability(0.001 gm)	2					
05-10-00068	Top pan balance capacity, (6200gm) ,readability(0.01 gm)	2					
05-10-00069	Top pan balance capacity, (16000gm), readability(0.1 gm)	2					
05-10-00070	Bench scale balance capacity(34.2 Kg), readability (0.5 gm)	2					
05-10-00071	Combustion Crucibles up to(1200)°C without cover and spout medium, high form , capacity (50) ml	80					
05-10-00072	Combustion Crucibles up to (1200) °C without cover and spout medium, high form, capacity(150-200)ml	60					

05-10-00073	Combustion Platinum Crucibles without cover and spout capacity(50)ml	7					
05-10-00074	Portable thermometer for concrete ,range(0-50) °C	10					
05-10-00075	Portable thermometer for asphalt concrete range, (-10-250) °C	35					
05-10-00076	Water Distilling Apparatus made of stainless steel output capacity (12 Lit/hr)	3					
05-10-00077	Water Distilling Apparatus made of stainless steel output capacity (20 Lit/hr)	5					
05-10-00078	Vacuum Pump (220)volt , 50 Hz, 3 phase producing ultimate vacuum (12-15) mmHg with desiccator about (25-30) cm diameter	9					
05-10-00079	Mettler DL-40 Memo Titrator ST 20 Sample Changer Automatic with (5) electrodes for chloride ions percent determination .	1					
05-10-00080	Digital thermometer with surface temperature probe measuring range, (-50 - + 300) °C for concrete and asphalt measurement	20					
05-10-00081	Core Drilling Machine electrically operated 220 volt ,AC 50 Hz single phase with diamond core cutting barrel 4in inside diameter	3					

05-10-00082	Pundit , measurement of concrete uniformity , detemination of the presence and absence of void cracks and other imperfections in accordance with BS1881/203	5					
05-10-00083	Digital crack measuring range battery operated ± 50 mm measuring range,0.01 mm resolution with locating disk and silver oxide cell	1					
05-10-00084	Hand held digital half cell and data logger system complete to comply to BS1881 and ASTM C876	3					
05-10-00085	Micro cover meter for measurement down to 360 mm depthcomplete with probe incorporates and an imperial and metric mode for determining the position and direction of steel reinforcement and depth of cover to the steel	3					
05-10-00086	Machine for testing the tensile strength of steel reinforcement according to ASTM ,A 615 M , capacity 1000 kN ,readability 0.1	3					
05-10-00087	Compression test machine capacity 3000 kN ,readability 0.2	1					
	* Cement test apparatus						
05-10-00088	Vicate frame setting time appartus	1					
05-10-00089	Mortar mixer	1					
05-10-00090	Lechatlier method for soundness cement apparatus	2					
05-10-00091	Blain air permeability appartus	2					
05-10-00092	cement heat of hydration appartus	2					

05-10-00093	Norm sand DIN 1164 for cement mortar	2	ton				
05-10-00094	Beckman thermometer	40					
05-10-00095	Lechetlier flask for cement Density	20					
05-10-00096	Automatic cement Mortar flexural & compression machine	1					
	* Concrete test apparatus						
05-10-00097	Concrete core drilling (vertical and horizontal)	2					
05-10-00098	Concrete mixer	1					
05-10-00099	Slump test apparatus	3					
05-10-00100	- Protected thermometer (-10-+200)°C	25					
05-10-00101	- Digital thermometer (-10-+200) °C	5					
05-10-00102	- Analytical balance cop 160gm accuracy 0.1 mg	2					
05-10-00103	Micro wave oven	3					
	* Soil test apparatus						
05-10-00104	Triaxial testing equipment with accessories	1					
05-10-00105	- Triaxial cells 70- 150 mm	4					
05-10-00106	Direct shear apparatus with assemb	2					
05-10-00107	Field Density determination (Sand pouring cylinder)	4	set				
05-10-00108	Grain size analysis test by hydrometer apparatus	6					
05-10-00109	- Seive set 75 µ mm -100 mm	2					
	*Asphaltic concrete apparatus						
05-10-00110	Softening point apparatus	2					
05-10-00111	C.B.R - marshall - tester with accessories	1					
05-10-00112	centrifuge exetractor	2					
05-10-00113	Standard penetrometer	2					
05-10-00114	Speedy apparatus for testing compaction on site	10					

**APPENDIX 10 B .
INSTRUMENTATION REQUIRMENTS**

	Bourden Gauge (Manometer) . Finite B Manometer Diameter of Gauge 6"Sensitivity 0.1 Bar						
05-10-00115	* Range 0 - 16 Bar		300				
05-10-00116	* Range 0 - 10 Bar		250				
05-10-00117	* Range 0 - 6 Bar		200				
05-10-00118	Rocmeter (M. Bore - Hole Extensometer) Dial Gage Range 0 - 100 mm., Sensitivity 0.06 mm.		2				
05-10-00119	Rocmeter Extensometer Indipoc P4 Electrical Device		1				
05-10-00120	Teletensometer Indipoc P2 (Read Out Unit) Electrical Device		1				
05-10-00121	Seba Hydrometer, Dipmeter For Measuring Water, Level Inside Open Air Piezometer Length (100-150) m.		10				
05-10-00122	Interfels Dial Gage, Read Out Unit For Multi Road Extensometer., Range 0 - 100 mm. Sensitivity 0.06 mm.		2				
05-10-00123	Battery (NI - CD) For MDS 910 1.2 V, 10 AH (VR 10 SF 023 CEIKRH 44/91) and Battery PP9 / 9V For Vibrating Wire Readout		70				
05-10-00124	Battery Globe GC 626 - 1, 12 V For SMA - 1 Strong Mottron Accelerograph		20				
05-10-00125	Battery Charger For SMA - 1 Strong Motion Accelerograph (700084)		5				
05-10-00126	Sensitive instrument and measuring divices for registering the movement and settlement of the hydraulic structures and dams complete with all accessories		150				

05-10-00127	battery and film for sisemic measuring sets	20					
05-10-00128	Injection pump for Epoxy and polyrethen with accessories Q= 200 l/min .	6					
05-10-00129	Galvanized pipe different diameters (for piezometers)	100000	m				

**APPENDIX 10 C .
SURVEYING EQUIPMENTS**

CODE	DESCRIPTION	QUANTITY	UNIT OF MEASURE				
05-10-00130	Straight line white line depth recorder (Echo - Sounder) for rivers, canals and lakes to be mounted on small or rubber boats measure water depths up to 100 Mts.	16					
05-10-00131	Electronic Planimeter to measure Area , Line length . X,Y coordinates , with display screen and recorded out - put , rechargeable , battery	8					
05-10-00132	Dist.Measur.Range 3500 M.for(1)prism(or a bout) Angle Accuracy 1 sec dist . Accuracy 2 mm + 2 ppm . With control unit . and all other standard complementary accessories .	20					
05-10-00133	EDM - instruments with Robotic Total Station Dist . Measure Range (1500 M . for 1 prism or a bout) Angle accuracy 1 sec dist. Accuracy 2 mm + 2 ppm. With control unit , and all other standard complementary accessories .	36					

05-10-00134	Geodatwin field control unit with CPS - Glonass system with all standard accessories . Global Positioning system (GPS)	10					
05-10-00135	Field instrument for geographical position (GPS)	4					
05-10-00136	Modern two colours computerized offset printing machine for paper	4					
05-10-00137	Image setter or electronic scanner for colour separation and montage processes complete with its computer and accessories	3					
05-10-00138	Reproduction (two rooms) cammera with all accessories	1					
05-10-00139	Automatic printing plates developing and fixing with all accessories	1					
05-10-00140	Precise digital electronic level complete with staffs	12					
05-10-00141	Engineering digital electronic level with staffs	40					
05-10-00142	Range finder for (GIS) application	2					
05-10-00143	Complete modern (GIS) station with all accessories for up to(20) users	2					
05-10-00144	Complete analytical photogrammetric work station with large size flat-bed digital electronic plotting unit & all necessary software	2					
05-10-00145	Complete digital photogrammetric workstation	2					
05-10-00146	Under water mointring cammara with accessories	2					
05-10-00147	Sensetive instrument for monitaring hydraulic structures and dams (different types)	1000	set				