

Sector : AGRICULTURE

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

Priority Within the Sector:First

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 applicat ion	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 erocesesses .(Soil,material test and water quality monitoring in all 15 Governorates)			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			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 MEASUR E				
05-10-00003	PH checker stick model						
05-10-00004	Bench PH meter						
05-10-00005	Water proof , auto ranging conductivity /TDS/C? meter						
05-10-00006	conductivity meter with platinum probe different ranges						
05-10-00007	Dissolved oxygen meter						

05-10-00008	Water proof& rugged thermistor thermometer						
05-10-00009	Colorimeter						
05-10-00010	Turbidity meter						
05-10-00011	Relative humidity meter						
05-10-00012	Water bath						
05-10-00013	Shaking Water bath						
05-10-00014	Titration Burette , digital rate electronic						
05-10-00015	High speed centrifuge						
05-10-00016	Chemical calculator						
05-10-00017	Incubator						
05-10-00018	Binocular microscope						
05-10-00019	Atomic absorption spectrop - photometer						
05-10-00020	Hotplate						
05-10-00021	Shakers						
05-10-00022	Hallow cathode(lamps) for Atomic absorption						
05-10-00023	Block heaters						
05-10-00024	Mills						
05-10-00025	General purpose augres						
05-10-00026	Clay augres						
05-10-00027	Sand augres						
05-10-00028	Augres extension 34?						
05-10-00029	Augres extension 44?						
05-10-00030	Hand grips						
05-10-00031	Acid transfer Hand pumps						
05-10-00032	Density meters						
05-10-00033	Protein tester						
05-10-00034	Pressure ceramic plate						
05-10-00035	Beakers						
05-10-00036	Bottles						
05-10-00037	Bottles carboys						

05-10-00038	Washing Bottles						
05-10-00039	Filter paper (different grades and diameters)						
05-10-00040	- Membrane filter size 47						
05-10-00041	Pipettes						
05-10-00042	Pipettes fillers						
05-10-00043	Respirators						
05-10-00044	Chemical reagents * Sodium Salicylate * Sulfanyl amide DF1- B-7 * Sulfuric Acid Analar 98% *Acetone Analar *Cadmium chloride *Ammonium Acetate						
05-10-00045	Tubing						
05-10-00046	Spatulas						
05-10-00047	electronic pentograph						
05-10-00048	Gouch crucible glass						
05-10-00049	Normal sols						
05-10-00050	Indoor & outdoor weather monitoring system						
05-10-00051	Parafilm						
05-10-00052	Flame photometer						
05-10-00053	Insulation measuring device						
05-10-00054	River discharge measurement station & current meter						
05-10-00055	Centralised Monitoring system for Dams , Barrage& major Irrigation Intake						
05-10-00056	Computer with all accessories						
05-10-00057	Color laser printer size (A3)						

05-10-00058	Color scanner high reselution						
05-10-00059	Mastic test equipment according to ASTM D1851						
05-10-00060	Apparatus for determining the liquid limit and plastic limit of soils according to AASHTO T-89						
05-10-00061	Compactor machine for Asphalt concrete , (Marshall specimens)						
05-10-00062	Electric Asphalt penetration test apparatus according to ASTM D5						
05-10-00063	Needle for penetration test of Asphalt according to ASTM D5						
05-10-00064	Asphalt core cutting machine,diesel engine, speed 424 R/M.						
05-10-00065	Core cutters diameter 4 in and 6 in						
05-10-00066	Precision balance capacity (210 gm), readability(0.0001 gm)						
05-10-00067	Precision balance capacity (810 gm), readability(0.001 gm)						
05-10-00068	Top pan balance capacity, (6200gm) ,readability(0.01 gm)						
05-10-00069	Top pan balance capacity,(16000gm),readability(0.1 gm)						
05-10-00070	Bench scale balance capacity(34.2 Kg), readability (0.5 gm)						
05-10-00071	Combustion Crucibles up to(1200)°C without cover and spout medium, high form , capacity (50) ml						

05-10-00072	Combustion Crucibles up to (1200) °C without cover and spout medium, high form, capacity (150-200)ml						
05-10-00073	Combustion Platinum Crucibles without cover and spout capacity (50)ml						
05-10-00074	Portable thermometer for concrete , range (0-50) °C						
05-10-00075	Portable thermometer for asphalt concrete range, (-10-250) °C						
05-10-00076	Water Distilling Apparatus made of stainless steel output capacity (12 Lit/hr)						
05-10-00077	Water Distilling Apparatus made of stainless steel output capacity (20 Lit/hr)						
05-10-00078	Vacuum Pump (220)volt , 50 Hz, 3 phase producing ultimate vacuum (12-15) mmHg with desiccator about (25-30) cm diameter						
05-10-00079	Mettler DL-40 Memo Titrator ST 20 Sample Changer Automatic with (5) electrodes for chloride ions percent determination .						
05-10-00080	Digital thermometer with surface temperature probe measuring range, (-50 - + 300) °C for concrete and asphalt measurement						
05-10-00081	Core Drilling Machine electrically operated 220 volt , AC 50 Hz single phase with diamond core cutting barrel 4in inside diameter						

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						
05-10-00083	Digital crack measuring range battery operated ± 50 mm measuring range,0.01 mm resolution with locating disk and silver oxide cell						
05-10-00084	Hand held digital half cell and data logger system complete to comply to BS1881 and ASTM C876						
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						
05-10-00086	Machine for testing the tensile strength of steel reinforcement according to ASTM ,A 615 M , capacity 1000 kN ,readability 0.1						
05-10-00087	Compression test machine capacity 3000 kN ,readability 0.2						
	* Cement test apparatus						
05-10-00088	Vicate frame setting time appartus						
05-10-00089	Mortar mixer						
05-10-00090	Lechatlier method for soundness cement apparatus						
05-10-00091	Blain air permeability appartus						

05-10-00092	cement heat of hydration apparatus						
05-10-00093	Norm sand DIN 1164 for cement mortar						
05-10-00094	Beckman thermometer						
05-10-00095	Lechetlier flask for cement Density						
05-10-00096	Automatic cement Mortar flexural &compression machine						
	* Concrete test apparatus						
05-10-00097	Concrete core drilling (vertical and horizontal)						
05-10-00098	Concrete mixer						
05-10-00099	Slump test apparatus						
05-10-00100	- Protected thermometer (-10-+200)?C						
05-10-00101	- Digital thermometer (-10-+200) ?C						
05-10-00102	- Analytical balance cop 160gm accuracy 0.1 mg						
05-10-00103	Micro wave oven						
	* Soil test apparatus						
05-10-00104	Triaxial testing equipment with accessories						
05-10-00105	- Triaxial cells 70- 150 mm						
05-10-00106	Direct shear apparatus with assemb						
05-10-00107	Field Density determination (Sand pouring cylinder)						
05-10-00108	Grain size analysis test by hydrometer apparatus						
05-10-00109	- Seive set 75 μ mm -100 mm						
	*Asphaltic concrete apparatus						
05-10-00110	Softening point apparatus						
05-10-00111	C.B.R - marshall - tester with accessories						
05-10-00112	centrifuge exetractor						

05-10-00113	Standard penetrometer						
05-10-00114	Speedy apparatus for testing compaction on site						

**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						
05-10-00116	* Range 0 - 10 Bar						
05-10-00117	* Range 0 - 6 Bar						
05-10-00118	Rocmeter (M. Bore - Hole Extensometer) Dial Gage Range 0 - 100 mm., Sensitivity 0.06 mm.						
05-10-00119	Rocmeter Extensometer Indipoc P4 Electrical Device						
05-10-00120	Teletensometer Indipoc P2 (Read Out Unit) Electrical Device						
05-10-00121	Seba Hydrometer, Dipmeter For Measuring Water, Level Inside Open Air Piezometer Length (100-150) m.						
05-10-00122	Interfels Dial Gage, Read Out Unit For Multi Road Extensometer., Range 0 - 100 mm. Sensitivity 0.06 mm.						
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						
05-10-00124	Battery Globe GC 626 - 1, 12 V For SMA - 1 Strong Mottron Accelerograph						
05-10-00125	Battery Charger For SMA - 1 Strong Motion Accelerograph (700084)						

05-10-00126	Sensitive instrument and measuring devices for registering the movement and settlement of the hydraulic structures and dams complete with all accessories						
05-10-00127	battery and film for seismic measuring sets						
05-10-00128	Injection pump for Epoxy and polyurethane with accessories Q= 200 l/min .						
05-10-00129	Galvanized pipe different diameters (for piezometers)						

**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.						
05-10-00131	Electronic Planimeter to measure Area , Line length . X,Y coordinates , with display screen and recorded out - put , rechargeable , battery						
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 .						

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 .						
05-10-00134	Geodatwin field control unit with CPS - Glonass system with all standard accessories . Global Positioning system (GPS)						
05-10-00135	Field instrument for geographical position (GPS)						
05-10-00136	Modern two colours computerized offset printing machine for paper						
05-10-00137	Image setter or electronic scanner for colour separation and montage processes complete with its computer and accessories						
05-10-00138	Reproduction (two rooms) cammera with all accessories						
05-10-00139	Automatic printing plates developing and fixing with all accessories						
05-10-00140	Precise digital electronic level complete with staffs						
05-10-00141	Engineering digital electronic level with staffs						
05-10-00142	Range finder for (GIS) application						
05-10-00143	Complete modern (GIS) station with all accessories for up to(20) users						

05-10-00144	Complete analytical photogrammetric work station with large size flat-bed digital electronic plotting unit & all necessary software						
05-10-00145	Complete digital photogrammetric workstation						
05-10-00146	Under water mointring cammara with accessories						
05-10-00147	Sensetive instrument for monitaring hydraulic structures and dams (different types)						