

ANNEXE 5. CONSULTING SERVICES

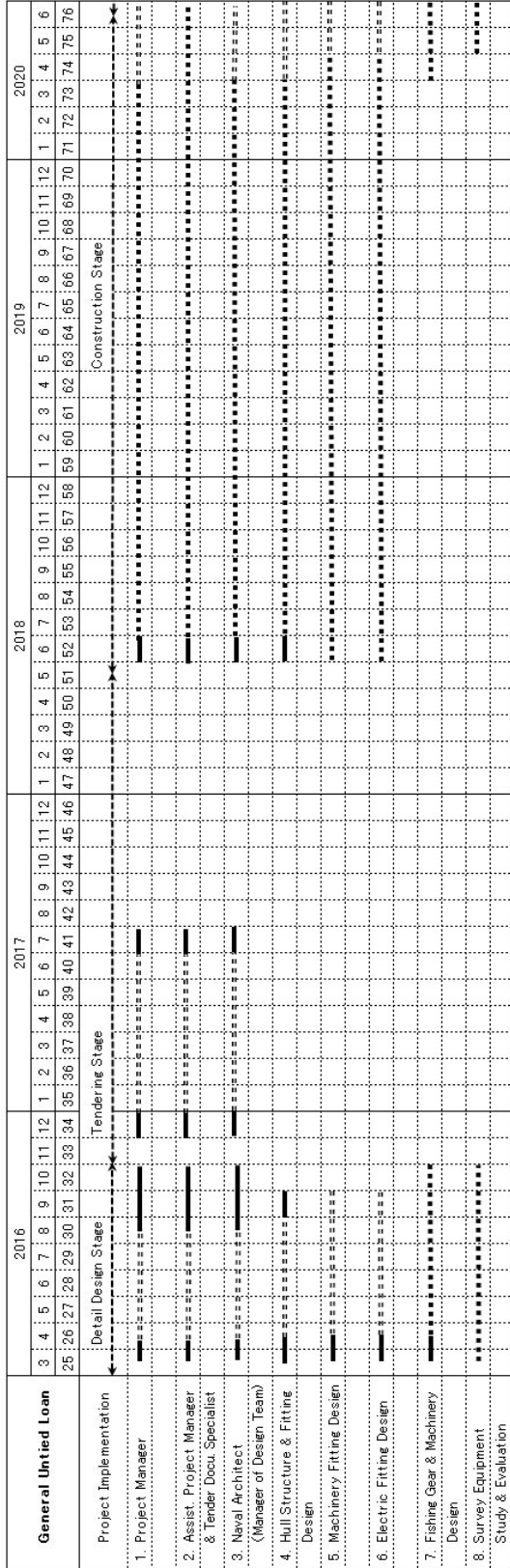
5-1. Work Schedule

STEP	2014					2015					2016					2017					2018																		
	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7
Loan Implementation	① Detail Design Stage										② Tendering Stage					③ Construction Stage (continued)																							
1. Project Manager	-----					-----					-----					-----					-----																		
2. Assist. Project Manager & Tender Docu. Specialist	-----					-----					-----					-----					-----																		
3. Naval Architect (Manager of Design Team)	-----					-----					-----					-----					-----																		
4. Hull Structure & Fitting Design	-----					-----					-----					-----					-----																		
5. Machinery Fitting Design	-----					-----					-----					-----					-----																		
6. Electric Fitting Design	-----					-----					-----					-----					-----																		
7. Fishing Gear & Machinery Design	-----					-----					-----					-----					-----																		
8. Survey Equipment Study & Evaluation	-----					-----					-----					-----					-----																		

STEP	2018					2019					2020					Man-Month										
	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	Morocco	Abroad	Total		
Loan Implementation	③ Construction Stage					④ Delivery																				
1. Project Manager	-----					-----					-----					9.50	19.25	28.75								
2. Assist. Project Manager & Tender Docu. Specialist	-----					-----					-----					8.50	13.75	22.25								
3. Naval Architect (Manager of Design Team)	-----					-----					-----					8.50	21.35	29.85								
4. Hull Structure & Fitting Design	-----					-----					-----					3.00	14.85	17.85								
5. Machinery Fitting Design	-----					-----					-----					1.00	14.40	15.40								
6. Electric Fitting Design	-----					-----					-----					1.00	14.40	15.40								
7. Fishing Gear & Machinery Design	-----					-----					-----					1.00	2.85	3.85								
8. Survey Equipment Study & Evaluation	-----					-----					-----					0.00	2.85	2.85								
Total(m.m)																32.50	103.70	136.20								

Note:

- continuous work in Morocco
- intermittent work in Morocco
- continuous work abroad
- intermittent work abroad



Note:

- continuous work in Morocco
- ▨ intermittent work in Morocco
- ===== continuous work abroad
- ▨ intermittent work abroad

General United Loan (continued)	2020												Man-Month			
	6	7	8	9	10	11	12	6	7	8	9	10	11	12	Moro-cco	Abroad
Project Implementation	Delivery															
1. Project Manager	=====												9.50	19.25	28.75	
2. Assist. Project Manager & Tender Docu. Specialist	=====												8.50	13.75	22.25	
3. Naval Architect (Manager of Design Team)	=====												8.50	21.35	29.85	
4. Hull Structure & Fitting Design	=====												3.00	14.95	17.95	
5. Machinery Fitting Design	=====												1.00	14.40	15.40	
6. Electric Fitting Design	=====												1.00	14.40	15.40	
7. Fishing Gear & Machinery Design	=====												1.00	2.85	3.85	
8. Survey Equipment	=====												0.00	2.85	2.85	
Study & Evaluation	=====															
Total(m·m)													32.50	103.70	136.20	

5-2. Breakdown of Consulting Fee

1) STEP(Detail Design Stage)

	Man-Month		Labour Cost		Travel Expenses in Morocco			Air Fare Tokyo/Casablanca			Travel Expenses(Supervision at Shipyard)			Domestic Travel Fee (Train/Bus)					
	Morocco (m·m)	Abroad (m·m)	Total (m·m)	Billing Rate (¥1,000/m·m)	Amount (¥1,000)	Allowance (¥1,000/d)	Hotel (¥1,000/d)	Duration (m·mx30)	Amount (¥1,000)	Round Ticket (¥1,000/t)	Times	Amount (¥1,000)	Allowance (¥1,000/d)	Hotel (¥1,000/d)	Duration (days)	Amount (¥1,000)	Round Ticket (¥1,000/t)	Times	Amount (¥1,000)
1. Project Manager	3.50	4.00	7.50	2562.000	19,215.000	4,500	13,500	105.0	1,890.000	724.000	2	1,448.000	2,200	11,000	0	0.000		0	0.000
2. Assist. Project Manager & Tender Docu. Specialist	3.50	4.00	7.50	2562.000	19,215.000	3,800	11,600	105.0	1,617.000	724.000	2	1,448.000	2,200	11,000	0	0.000		0	0.000
3. Naval Architect & Manager of Design Team	3.50	4.00	7.50	2562.000	19,215.000	4,500	13,500	105.0	1,890.000	724.000	2	1,448.000	2,200	11,000	0	0.000		0	0.000
4. Hull Structure & Fitting Design	2.00	4.50	6.50	2562.000	16,653.000	3,800	11,600	60.0	924.000	724.000	2	1,448.000	2,200	11,000	0	0.000		0	0.000
5. Machinery Fitting Design	1.00	5.50	6.50	2562.000	16,653.000	3,800	11,600	30.0	462.000	724.000	1	724.000	2,200	11,000	0	0.000		0	0.000
6. Electric Fitting Design	1.00	5.50	6.50	2562.000	16,653.000	3,800	11,600	30.0	462.000	724.000	1	724.000	2,200	11,000	0	0.000		0	0.000
7. Fishing Gear & Fishing Machinery Design	1.00	1.95	2.95	2562.000	7,557.900	3,800	11,600	30.0	462.000	724.000	1	724.000	2,200	11,000	0	0.000		0	0.000
8. Survey Equipment Study & Evaluation	0.00	2.25	2.25	2562.000	5,764.500	3,800	11,600	0.0	0.000	724.000	0	0.000	2,200	11,000	0	0.000		0	0.000
TOTAL	15.50	31.70	47.20		120,926.400			465	7,707.000		11	7,964.000				0.000		0	0.000

2) STEP(Tendering, Construction and Delivery Stage)

	Man-Month		Labour Cost		Travel Expenses in Morocco			Air Fare Tokyo/Casablanca			Travel Expenses(Supervision at Shipyard)			Domestic Travel Fee (Train/Bus)					
	Morocco (m·m)	Abroad (m·m)	Total (m·m)	Billing Rate (¥1,000/m·m)	Amount (¥1,000)	Allowance (¥1,000/d)	Hotel (¥1,000/d)	Duration (m·mx30)	Amount (¥1,000)	Round Ticket (¥1,000/t)	Times	Amount (¥1,000)	Allowance (¥1,000/d)	Hotel (¥1,000/d)	Duration (days)	Amount (¥1,000)	Round Ticket (¥1,000/t)	Times	Amount (¥1,000)
1. Project Manager	6.00	15.25	21.25	2562.000	54,442.500	4,500	13,500	180.0	3,240.000	724.000	4	2,896.000	3,000	15,000	45	810.000	50.000	6	300.000
2. Assist. Project Manager & Tender Docu. Specialist	5.00	9.75	14.75	2562.000	37,789.500	3,800	11,600	150.0	2,310.000	724.000	4	2,896.000	3,000	15,000	30	540.000	50.000	4	200.000
3. Naval Architect & Manager of Design Team	5.00	17.35	22.35	2562.000	57,260.700	4,500	13,500	150.0	2,700.000	724.000	4	2,896.000	3,000	15,000	45	810.000	50.000	6	300.000
4. Hull Structure & Fitting Design	1.00	10.35	11.35	2562.000	29,078.700	3,800	11,600	30.0	462.000	724.000	1	724.000	3,000	15,000	45	810.000	50.000	6	300.000
5. Machinery Fitting Design	0.00	8.90	8.90	2562.000	22,801.800	3,800	11,600	0.0	0.000	724.000	0	0.000	3,000	15,000	40	720.000	50.000	4	200.000
6. Electric Fitting Design	0.00	8.90	8.90	2562.000	22,801.800	3,800	11,600	0.0	0.000	724.000	0	0.000	3,000	15,000	40	720.000	50.000	4	200.000
7. Fishing Gear & Fishing Machinery Design	0.00	0.90	0.90	2562.000	2,305.800	3,800	11,600	0.0	0.000	724.000	0	0.000	3,000	15,000	20	360.000	50.000	1	50.000
8. Survey Equipment Study & Evaluation	0.00	0.60	0.60	2562.000	1,537.200	3,800	11,600	0.0	0.000	724.000	0	0.000	3,000	15,000	20	360.000	50.000	1	50.000
TOTAL	17.00	72.00	89.00		228,018.000			510	8,712.000		13	9,412.000			285.000	5,130.000		32	1,600.000

1) GENERAL UNTIED(Detail Design Stage)

	Man-Month			Labour Cost			Travel Expenses in Morocco			Air Fare Tokyo/Casablanca			Travel Expenses(Supervision at Shipyard)			Europe Travel Fee(Train/Bus)			
	Morocco (m.m)	Abroad (m.m)	Total (m.m)	Billing Rate (¥1,000/m.m)	Amount (¥1,000)	Allowance (¥1,000/d)	Hotel (¥1,000/d)	Duration (m.mx30)	Amount (¥1,000)	Round Ticket (¥1,000/t)	Times	Amount (¥1,000)	Allowance (¥1,000/d)	Hotel (¥1,000/d)	Duration (days)	Amount (¥1,000)	Round Ticket (¥1,000/t)	Times	Amount (¥1,000)
1. Project Manager	3.50	4.00	7.50	2562.000	19,215.000	4,500	13,500	105.0	1,890.000	724.000	2	1,448.000	4,500	13,500	0	0.000	50,000	0	0.000
2. Assist. Project Manager & Tender Docu. Specialist	3.50	4.00	7.50	2562.000	19,215.000	3,800	11,600	105.0	1,617.000	724.000	2	1,448.000	3,800	11,600	0	0.000	50,000	0	0.000
3. Naval Architect & Manager of Design Team	3.50	4.00	7.50	2562.000	19,215.000	4,500	13,500	105.0	1,890.000	724.000	2	1,448.000	4,500	13,500	0	0.000	50,000	0	0.000
4. Hull Structure & Fitting Design	2.00	4.50	6.50	2562.000	16,653.000	3,800	11,600	60.0	924.000	724.000	2	1,448.000	3,800	11,600	0	0.000	50,000	0	0.000
5. Machinery Fitting Design	1.00	5.50	6.50	2562.000	16,653.000	3,800	11,600	30.0	462.000	724.000	1	724.000	3,800	11,600	0	0.000	50,000	0	0.000
6. Electric Fitting Design	1.00	5.50	6.50	2562.000	16,653.000	3,800	11,600	30.0	462.000	724.000	1	724.000	3,800	11,600	0	0.000	50,000	0	0.000
7. Fishing Gear & Fishing Machinery Design	1.00	1.95	2.95	2562.000	7,557.900	3,800	11,600	30.0	462.000	724.000	1	724.000	3,800	11,600	0	0.000	50,000	0	0.000
8. Survey Equipment Study & Evaluation	0.00	2.25	2.25	2562.000	5,764.500	3,800	11,600	0.0	0.000	724.000	0	0.000	3,800	11,600	0	0.000	50,000	0	0.000
TOTAL	15.50	31.70	47.20		120,926.400			465	7,707.000		11	7,964.000			0.000	0.000		0	0.000

2) GENERAL UNTIED(Tendering, Construction and Delivery Stage)

	Man-Month			Labour Cost			Travel Expenses in Morocco			Air Fare Tokyo/Casablanca&Europe			Travel Expenses(Supervision at Shipyard)			Europe Travel Fee(Train/Bus)			
	Morocco (m.m)	Abroad (m.m)	Total (m.m)	Billing Rate (¥1,000/m.m)	Amount (¥1,000)	Allowance (¥1,000/d)	Hotel (¥1,000/d)	Duration (m.mx30)	Amount (¥1,000)	Round Ticket (¥1,000/t)	Times	Amount (¥1,000)	Allowance (¥1,000/d)	Hotel (¥1,000/d)	Duration (days)	Amount (¥1,000)	Round Ticket (¥1,000/t)	Times	Amount (¥1,000)
1. Project Manager	6.00	15.25	21.25	2562.000	54,442.500	4,500	13,500	180.0	3,240.000	724.000	8	5,792.000	3,000	15,000	60	1,080.000	50,000	4	200.000
2. Assist. Project Manager & Tender Docu. Specialist	5.00	9.75	14.75	2562.000	37,789.500	3,800	11,600	150.0	2,310.000	724.000	7	5,068.000	3,000	15,000	50	900.000	50,000	3	150.000
3. Naval Architect & Manager of Design Team	5.00	17.35	22.35	2562.000	57,260.700	4,500	13,500	150.0	2,700.000	724.000	8	5,792.000	3,000	15,000	60	1,080.000	50,000	4	200.000
4. Hull Structure & Fitting Design	1.00	10.35	11.35	2562.000	29,078.700	3,800	11,600	30.0	462.000	724.000	4	2,896.000	3,000	15,000	50	900.000	50,000	3	150.000
5. Machinery Fitting Design	0.00	8.90	8.90	2562.000	22,801.800	3,800	11,600	0.0	0.000	724.000	3	2,172.000	3,000	15,000	50	900.000	50,000	3	150.000
6. Electric Fitting Design	0.00	8.90	8.90	2562.000	22,801.800	3,800	11,600	0.0	0.000	724.000	3	2,172.000	3,000	15,000	50	900.000	50,000	3	150.000
7. Fishing Gear & Fishing Machinery Design	0.00	0.90	0.90	2562.000	2,305.800	3,800	11,600	0.0	0.000	724.000	1	724.000	3,000	15,000	20	360.000	50,000	1	50.000
8. Survey Equipment Study & Evaluation	0.00	0.60	0.60	2562.000	1,537.200	3,800	11,600	0.0	0.000	724.000	1	724.000	3,000	15,000	20	360.000	50,000	1	50.000
TOTAL	17.00	72.00	89.00		228,018.000			510	8,712.000		25	25,340.000			360.000	6,480.000		22	1,100.000

ANNEX 6. PROJECT COST AND OPERATION & MAINTENANCE COST

6-1. Breakdown of construction cost (in case of construction in Japan)

				Plan-A	Plan-B
A. Manufacturing Costs (a+b)				4,438,856	3,663,417
a. Direct Production Costs				3,728,979	3,131,779
(1) Material Costs				379,614	281,902
1) Direct Material Costs				348,507	258,779
a. Hull Structure Part				123,100	92,870
b. Hull Fitting Part				132,669	96,503
c. Machinery Part				48,372	36,270
d. Electric Part				44,366	33,136
2) Auxiliary Material Costs				31,107	23,123
(2) Equipment Costs				2,562,424	2,249,594
1) Hull Part				284,150	204,009
2) Machinery Part				639,313	510,911
3) Electric Part				415,073	369,502
4) Survey Equipment				738,536	699,618
4) Fishing Equipment				485,352	465,554
(3) Labour Cost				618,108	453,566
(4) Painting Man-hour Cost				39,375	35,437
(5) Direct Cost				129,458	111,280
1) Docking Expenses				10,769	8,057
2) Class Inspection Cost				10,000	10,000
3) Sea Trial Expenses				71,789	56,323
4) Special Expenditure				36,900	36,900
b. Indirect Production Costs				709,877	531,638
(1) Indirect Labour Cost				282,215	208,232
(2) Factory and administrative expenses				427,662	323,406

(2) Breakdown of Equipment Cost for Plan-A (1,100 G/T)

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8. Hull Part

(in thousands yen)

Equipment	Q'ty	Particulars	Cost
Steering Gear	1	rotary vane type, torque 149.5kN-m	15,525
Bow Thruster	1	electric, CPP, thrust 39.2kN, 195kW	18,000
Windlass	2	1CD-2HD-1WE, 44.1kN x 12m/min	20,104
Mooring Winch	2	1HD-1WE, 29.4kN x 15m/min	9,256
Mooring Equipment	1 set	Bollard, Fair-leader, Mooring pipe	2,536
Wharf Ladder	1	aluminum, length 5.0m x breadth 0.6m	400
Bulwark Ladder	1	breadth 0.6m	408
Pilot Ladder	2		160
Flash Hatch	1	hyd. cylinder driven, size 1.80m x 1.30m	2,400
Life Laft	6	inflatable, class A, 20 persons	4,320
Rescue Boat	1	FRP, 6 persons, Length 4.36m,	2,880
Rescue Boat Davit	1	single boom slewing type, 7.5kW	3,360
Lifebuoy	8		151
Life Jacket	46	inflatable, with lifejacket light	626
Life Vest	29		581
Immersion Suit	44		1,338
Line-throwing App.	1		144
Signals	1 set		316
Work Boat	1	FRP/rubber, 8 persons, Length 4.90m,	3,638
Work Boat Davit	1	single boom slewing type, 1.5kW	2,700
Fire Detecting System	1 set	Heat and smoke detector system	3,040
Emergency fire pump	1	25m ³ /hX40mX11kW	560
Fire Hydrant	1 set		71
Fire Extinguisher	1 set	Portable extinguisher, Fireman's Outfit, EEBD	1,084
Fixed CO2 Fire-extinguishing	1 set	for engine room	1,080
Deck Bilge Pump	1	1.8m ³ /h×18m	128
Square Window	18	for wheelhouse, with window wiper	11,451
Round Windows	18	φ 300mm	1,377
Square Window	19	350×550mm	2,052
Mechanical Fan	7		1,844
Accommodation Work	1 set		131,257
Anti Rolling Tank	1 set	semi active type	8,800
Table with Exhaust Fan	1		900
Disposer	2		1,168
Household Appliances	1 set		3,043
Cooking Range	1	electric 35kW	2,295
Rice Cooker	2	6L	1,920
Tilting Brazing Pan	1	electric 9kW, 50L	1,011
Water Boiler	1	electric 3kW, 30L	183

Equipment	Q'ty	Particulars	Cost
Refrigerator	1	1500L	1,207
Disposer	1	15kg/min, 2.2kW	583
Ice Maker	1	38kg/day	440
Air Towel	1		40
Galley Equipment	1 set		1,109
Kitchen Supplies	1 set		3,520
Bath Equipment	1		375
Bow Anchor	2	AC14 high holding type, 968kg	272
Anchor Chain Cable	1 set	galvanized, dia.32mm x 385m	1,456
Mooring Line	1 set		2,845
Deck Inventory	1 set		10,640
Air Fender	2	rubber, dia. 1.0m x length 1.50m	2,400
Fender	4	φ500mm×1200mm	320
Total (Hull Part)			287,314

9. Machinery Part

(in thousands yen)

Equipment	Q'ty	Particulars	Cost
Main Engine & Propeller	1	1,885kW \times 750min ⁻¹ , 4CPPX2,700 φ	210,000
FO Purifier	1		4,400
LO Purifier for M/E	1	0.6m ³ /h, CJCfilter,	6,080
Low Temp. FW cooler	2		6,642
High Temp. FW cooler	2		900
Main Generator Engine	2	Rated output: 441kW \times 1000min ⁻¹	75,000
Emergency Generator Engine	1	Rated output: 50kW \times 1500min ⁻¹	5,400
Harbour Use Gene. Engine	1		13,500
Hot Water Boiler	1	Heat output : 233kW, Burner moter, Gas oil	8,730
Calorifire	1	5m ³ /h	495
Main Air Compressor	2	Air discharge volume: 30m ³ /h \times 7.5kW	4,230
Main Air Vessel	2		1,592
Aux. Air Vessel	1		696
Hyd. Pump Unit	1 set		49,128
Fresh Water Generator	1	10t/day, Plate type Titan plate	6,642
Fresh Water Generator	1	5t/day, Reverse osmosis type	5,265
Bilge Alarm	1 set		1,600
Water Level Gauge	1 set		5,925
Air Conditioning Unit	1 set		39,870
Smoke Separator	2	for smoker	1,080
Ref. Machine for F/H	1 set		19,200
Sewage Treatment Device	1	40 persons, discharge pump 1.5kW x 2	8,131
Sewage Collecting Tank	1	250L, sewage transfer pump 1.5kW	1,600

Equipment	Q'ty	Particulars	Cost
Main Cooling SW Pump	2	Centrifugal (1set stand-by)	1,700
M/E Stand-by HTCFW Pump	1	Centrifugal	420
M/E Stand-by LO Pump	1	Gear	1,340
M/E Stand-by FO Supply	1	Gear	400
R/G Stand-by LO Pump	1	Gear	320
R/G Clutch Oil Pump	1	Gear	390
R/G Stand-by Clutch Oil Pump	1	Gear	260
LT Cooling FW Pump	3	Centrifugal (1set stand-by)	1,260
Bilge and Fire Pump	1	65/30m ³ /hX25/45mX15kW	2,304
G. Service and Fire Pump	1	65/30m ³ /hX25/45mX15kW	2,304
Sanitary Pump	2	30m ³ /hX28mX2.2kW	528
FW Transfer Pump	1	10m ³ /hX35mX3.7kW	470
FW Service Pump	1	8m ³ /hX48mX2.2kW(potable water)	461
Distilled FW Service Pump	1	8m ³ /hX48mX2.2kW	461
HW Circulating Pump	2	5m ³ /hX25mX1.5kW	672
HTW Circulating Pump	2	30m ³ /hX20mX3.7kW	672
Bilge Pump(O/W separat)	1	0.5m ³ /hX 0.3MPaX 0.4kW	461
Waste Oil Transfer Pump	1	2m ³ /hX 0.4MPaX 1.5kW	663
FO Transfer Pump	1	10m ³ /hX 0.3MPaX3.7kW	346
FO Service Pump	1	2m ³ /hX0.25MPaX0.75kW	279
LO Transfer Pump	1	1m ³ /hX0.25MPaX0.75kW	202
Gray Water Transfer Pump	2	8m ³ /hX40mX3.7kW	653
Anchoring LTCFW Pump	1	Centrifugal	320
Labo. Sea Water Pump	1		600
Sea Water Pump for OPCS	1		450
Portable Pump	2		48
Marine Growth Prevention Eq.	2		3,240
Drink Water Sterilizer	1		3,600
Oily Water Separator	1	0.5m ³ /h (15ppm)	1,024
Flow Meter	1 set		2,400
E/R Supply Ventilation Fan	2	450/300m ³ /hX5.5/2.75kW	3,420
E/R Exhaust Ventilation Fan	1	200/130m ³ /hX2.2/0.75kW	393
Dehumidification Equipment	1	25 Nm ³ /m ³ ×0.69MPa	576
Transceiver	5		135
Workshop Equipment	1 set		4,160
Machinery Part Spare Parts	1 set		10,256
Propulsion Control Console	1		7,200
Winch Control Console	1		3,240
Engine Control Console	1		16,650
Engine Side Panel	1		2,700

Equipment	Q'ty	Particulars	Cost
Engine Control Room Equip.	1		640
Engine Data Logger System	1		45,000
Engine Telegraph	1		4,500
Spare Parts Maintenance Control system	1		13,500
Tank Level Gauge	1		10,800
Shaft Power Indicator	1		3,150
Sensors	1		5,000
Automation Adjustment	1		26,584
Total (Machinery Part)			662,258

10. Electric Part

(in thousands yen)

Equipment	Q'ty	Particulars	Cost
Receptacle	1 set		768
Storage Battery	1 set		3,309
Transformer	1 set		2,679
Shore Connection Box	1		320
Main Switchboard	1		17,820
Emergency Switchboard	1		3,870
Battery Charger Panel	1		2,160
Electric Motors	1 set		15,278
Starter	1 set		15,200
Bow-thruster Starter Panel	1		3,144
Receptacle for Power Source	1 set		46
Group Starter	1 set		3,600
Wheelhouse Group Starter	1 set		8,640
General Lighting	1 set		3,360
Movable Light	5		60
Flood Light	1 set		275
Search Light	2	Xenon lamp, remote control, 6kW	13,712
Search Light	1	Xenon lamp, remote control, 3kW	5,659
Flood Light	50	Halogen lamp, 500W	1,152
Mast Head Light	2		236
Side Light	1 pair		236
Stern Light	1		35
Anchor Light	2		85
Red Light	1		45
Fishing Light	3		168
Signal for Trawler	4		123
Day Light Signal Light	1		45

Equipment	Q'ty	Particulars	Cost
Life Saving Lights	1 set		482
Onboard Crew Display	1		1,710
"Observation" Display Lamp	1		54
Electric Part Spare Parts	1		244
Magnetic Compass	1	reflector type, card dia.165mm	835
Gyro Compass	1	IMO approved type	6,620
Satellite Compass	1	4.5" LCD with DGPS function,	1,240
Auto Pilot	1		4,824
Joystick Control System	1 set		36,000
Marine Radar	2	X band, 25kW, 96 n.mile	11,700
Color Video Plotter	1	10.4" TFT LCD Display,	3,008
ECDIS	1	23.1" color LCD, Position Calculation,	14,360
Ship LAN System	1		85,000
GPS Navigator	2	6" LCD with DGPS function,	3,200
Doppler Speed Log	1		1,080
AIS	1		2,400
Automatic Weather Station	1		15,660
Aneroid Barometer	2		270
Navigational Echo Sounder	1	6.5" color LCD, 50 and 200 kHz,	704
Depth Display	3		480
Loading Calculator	1		2,250
Quartz Clock	1 set		1,926
Inclinometer	2		248
Ruder Angle Indicator	1		1,350
Air Horn	1		200
Piston Horn			728
Time Controller	1		139
Auto-exchange Telephone	1 set		12,800
NO.1 Common Battery Tele.	1		344
NO.2 Common Battery Tele.	1		128
NO.3 Common Battery Tele.	1		75
Bell System	1 set		80
Public Addresser	1 set		14,400
Fire Detecting System	1		640
Ref. Chamber Alarm	1		120
Radio, Television System	1 set		15,802
Business equipment	1 set		411
Radio Equipment		A1+A2+A3	19,213
No.1 MF/HF Radio Telephone	1		7,200
No.1 VHF Telephone	1		1,040

Equipment	Q'ty	Particulars	Cost
NAVTEX Receiver	2		600
EPIRB	1		360
Two-way Radio Telephone	3		960
Radar Transponder (SART)	2		640
INMARSAT-C System	1		2,400
No.2 VHF Radio Telephone	1		800
Shipboard Maintenance Equip.	1 set		4,000
Inmarsat Fleet Broadband	1 set		9,500
MF/HF Radio Telephone	1		2,400
All-wave Receiver	2		2,560
27MHz DSB Receiver	1		280
27MHz SSB Receiver	1		960
40MHz DSB Receiver	1		320
Onboard Radio Telephone	6		2,640
Weather Facsimile	1		1,280
Antenna System	1 set		2,840
Monitor TV System	2 sets	for deck and engine room	13,920
BNWAS	1		1,500
V-SAT	1		6,100
Total (Electric Part)			425,050

11. Survey Equipment (Japan)

(in thousands yen)

Equipment	Q'ty	Particulars	Cost
2,000m CTD Winch	1	7.84kN×60m/min, ϕ 6.4×2,000m(armored)	12,870
2,000m Hydrography Winch	1	5.9kN×60m/min, ϕ 5(SUS)×2,000m	12,800
Multi Net Winch	1	25.5kN×60m/min, ϕ 10.52×2,000m(armored)	18,300
Hoist for Deck Use	2	0.9t×12m/min	1,120
Hoist for CTD Dolly	1	0.25t×7m/min	800
Fore Crane (general use)	1	8.82/3.92kN ×7.5/11.0m	9,045
Mid Space Crane (fishing)	1	8.82/14.7kN ×9.0/6.4m	9,045
Deck Crane	1	24.5/20.0kN ×11.5/14.1m	32,175
A Frame (aft)	1	SWL 53.9kN, outreach 3.0m	21,904
A Frame (midship)	1	SWL 29.4kN, outreach 3.0m	30,060
Davit for Observation	1	0.5t×3m/r	6,400
Larva Net	1 set		375
Block Rack	1 set		640
Reverse osmosis water purifier	1	Aquarius RFP542HA 25L/h at 25°C	568
Ultra-Pure Water Generator	1	Aquarius FRU414CA/CB 0.65L/min	906
Deep Freezer	1	-86°C, 350×1	696
Sample Storage Freezer	1	-25°C 3650 × 1	440

Equipment	Q'ty	Particulars	Cost
Medical Refrigerator	1	100~200ℓ, 2 point temp. alarm	520
Fish Finding Sonar	1	FURUNO FSV-35	29,800
Multiple Corer	1	4 transparent PVC tubes	6,810
Bottom Grab	1	Van Veen Grab Sampler	500
CTD System Dolly	1		800
CTD System Pedestal	1 set		80
Survey Equipment	1 set		2,800
Sediment Electric Grinder	1		150
PH Meter	1	HORIBA	85
Onboard Sediment Sieving System	1		1,000
Clean Oven	1	99ℓ, 0-250°C	250
Stereoscopic Microscope	2	Nikon SMZ 1000	900
Ichtyometer	2		10
Marine Precision Scale	2	Max.800g, precision 0.01g	160
Total (Survey Equip.(Japan))			202,009

12. Survey Equipment (Import)

(in thousands yen)

Equipment	Q'ty	Particulars	Cost
CTD System	1 set	Sea Bird, SBE 911plus CTD	28,830
Hydro-Bios MultiNet	1	Type Midi Net opening 0.25m ²	11,394
ADCP	1	Ocean Surveyor 150kHz	15,030
L-ADCP	1	T. RD Instruments	6,020
Doppler Current Meter	4	SEAGUARD, 4 sets, RCM, 2,000m	18,604
Mooring System	2 sets		23,440
Tide Meter	1	SEAGUARD WLR, 4647C-300m	1,980
Scientific Fish Finder	1	SIMRAD EK60, 18/38/120/200kHz	51,930
Data Processing Soft-ware			11,013
Scientific Multibeam Sonar	1	SIMRAD ME 70	144,000
Multibeam Echo Sounder	1	SIMRAD ME710, Depth 1500m	82,800
Multibeam Analysis Soft	1		4,050
Synchronous Transmitter	1		12,870
Scanbas System	1 set	SCANMAR	41,589
Particle Analysis and Imaging	1	FlowCAM	16,500
OPCS(LOPC-S)	1 set		29,600
Gyrocompass and Motion	1	KONGSBERG Seapath 300	15,210
Alkalinity & Dissolved Inorganic Carbon Extraction	1	MARIANDA VINDTA 3C	7,600
Particle Size Analyzer	1	Micromeritics SediGraph 5100	14,870
Inverted Microscope	2	Leica DM IL LED	900

Equipment	Q'ty	Particulars	Cost
Scale(big)	1	Max.60kg, precision 5g	2,000
Scale(small)	2	Max.3kg, precision 0.1g	3,100
Total (Survey Equip.(Import))			543,330

13. Fishing Equipment

(in thousands yen)

Equipment	Q'ty	Particulars	Cost
Auto Tension Winch System	1 set		36,000
Warp Winch	2	85/59/36kN×55/80/130m/mim	100,800
Net Winch	2	Bottom × 1, Pelagic × 1	70,000
Fishing Winch	2	29.4kN×40m/min, ϕ 14mm×40m S.W.R.	8,720
Trawl Winch Control Stand	1		64,000
Otter Board for bottom trawl	2 pair		14,400
Otter Board for pelagic	1 pair		7,200
Otter Board Accessories	1 set		855
Bottom Trawl Net	2	for Fishes	25,200
Bottom Trawl Net	2	for Cephalopods	27,000
Bottom Trawl Net	2	for Shrimp/Hake	45,000
Pelagic Trawl Net	2	for Fishes	55,800
Warp	2	T6×WS(26), ϕ 18mm×5000m	20,000
Fishing Gear and Tool	1 set		2,400
Slipway Door	1		5,440
Horizontal Roller	1 set		800
Top Roller	2		6,400
Total (Fishing Equipment)			490,015

(3) Breakdown of Equipment Cost for Plan-B (800 G/T)

1/8

8. Hull Part

(in thousands yen)

Equipment	Q'ty	Particulars	Cost
Steering Gear	1	torque 58.8kN-m, 3.7kW	5,000
Bow Thruster	1	electric, CPP, thrust 29.4kN, 163kW	15,000
Windlass	2	1CD-1HD-1WE, 25.5kN x 12m/min	13,403
Capstan	2	19.6kN×20m/min	4,000
Mooring Equipment	1 set	Bollard, Fair-leader, Mooring pipe	1,723
Wharf Ladder	1	aluminum, length 5.0m x breadth 0.6m	400
Bulwark Ladder	1	breadth 0.6m	408
Pilot Ladder	2		160
Flash Hatch	1	hyd. cylinder driven, size 1.80m x 1.30m	2,400
Life Raft	6	inflatable, class A, 20 persons	4,320
Rescue Boat	1	FRP, 6 persons, Length 4.36m,	2,880
Rescue Boat Davit	1	single boom slewing type, 7.5kW	3,360
Lifebuoy	8		151
Life Jacket	41	inflatable, with lifejacket light	558
Life Vest	29		581
Immersion Suit	39		1,186
Line-throwing App.	1		144
Signals	1 set		316
Fire Detecting System	1 set	Heat and smoke detector system	2,444
Emergency fire pump	1	25m ³ /h×40m×11kW	560
Fire Hydrant	1 set		71
Fire Extinguisher	1 set	Portable extinguisher, Fireman's Outfit, EEBD	872
Fixed CO ₂ Fire-extinguishing	1 set	for engine room	868
Deck Bilge Pump	1	1.8m ³ /h×18m	128
Square Window	18	for wheelhouse, with window wiper	11,451
Round Windows	18	φ 300mm	1,377
Square Window	11	350×550mm	1,026
Mechanical Fan	6		1,581
Accommodation Work	1 set		105,534
Table with Exhaust Fan	1		900
Disposer	2		1,168
Household Appliances	1 set		3,043
Cooking Range	1	electric 35kW	2,295
Rice Cooker	2	6L	1,920
Tilting Braising Pan	1	electric 9kW, 50L	1,011
Water Boiler	1	electric 3kW, 30L	183
Refrigerator	1	1500L	1,207

Equipment	Q'ty	Particulars	Cost
Disposer	1	15kg/min, 2.2kW	583
Ice Maker	1	38kg/day	440
Air Towel	1		40
Galley Equipment	1 set		1,109
Kitchen Supplies	1 set		3,520
Bath Equipment	1		375
Bow Anchor	2	AC14 high holding type, 675kg	190
Anchor Chain Cable	1 set	galvanized, dia. 26mm x 357.5m	893
Mooring Line	1 set		1,933
Deck Inventory	1 set		9,041
Air Fender	2	rubber, dia. 1.0m x length 1.50m	2,400
Fender	4	φ 500mm×1200mm	320
Total (Hull Part)			214,473

9. Machinery Part

(in thousands yen)

Equipment	Q'ty	Particulars	Cost
Main Engine & Propeller	1	1,471kW×750min ⁻¹ , 4CPPX2,550φ	190,000
FO Purifier	1		3,520
LO Purifier for M/E	1		4,864
Low Temp. FW cooler	2		5,314
High Temp. FW cooler	2		720
Main Generator Engine	2	Rated output: 254kW×1000min ⁻¹	68,000
Emergency Generator Engine	1	Rated output: 30kW×1500min ⁻¹	2,500
Hot Water Boiler	1		7,019
Calorifire	1		398
Main Air Compressor	2		3,384
Main Air Vessel	2		1,274
Aux. Air Vessel	1		557
Hyd. Pump Unit	1 set		39,302
Fresh Water Generator	1	10t/day, Plate type Titan plate	6,642
Fresh Water Generator	1	5t/day, Reverse osmosis type	5,265
Bilge Alarm	1 set		1,600
Water Level Gauge	1 set		4,764
Air Conditioning Unit	1 set		32,056
Smoke Separator	2	for smoker	1,080
Ref. Machine for Prov. Store	1 set		8,280
Sewage Treatment Device	1	40 persons, discharge pump 1.5kW x 2	8,131
Sewage Collecting Tank	1	250L, sewage transfer pump 1.5kW	1,600

Equipment	Q'ty	Particulars	Cost
Main Cooling SW Pump	2	Centrifugal (1set stand-by)	1,360
M/E Stand-by HTCFW Pump	1	Centrifugal	336
M/E Stand-by LO Pump	1	Gear	1,072
M/E Stand-by FO Supply Pump	1	Gear	320
R/G Stand-by LO Pump	1	Gear	256
R/G Clutch Oil Pump	1	Gear	312
R/G Stand-by Clutch Oil Pump	1	Gear	208
LT Cooling FW Pump	3	Centrifugal (1set stand-by)	1,008
Bilge and Fire Pump	1	65/30m ³ /hX25/45mX15kW	1,843
G. Service and Fire Pump	1	65/30m ³ /hX25/45mX15kW	1,843
Sanitary Pump	2	30m ³ /hX28mX2.2kW	422
FW Transfer Pump	1	10m ³ /hX35mX3.7kW	376
FW Service Pump	1	8m ³ /hX48mX2.2kW(potable water)	369
Distilled FW Service Pump	1	8m ³ /hX48mX2.2kW	369
HW Circulating Pump	2	5m ³ /hX25mX1.5kW	538
HTW Circulating Pump	2	30m ³ /hX20mX3.7kW	538
Bilge Pump(O/W separat)	1	0.5m ³ /hX 0.3MPaX 0.4kW	369
Waste Oil Transfer Pump	1	2m ³ /hX 0.4MPaX 1.5kW	530
FO Transfer Pump	1	10m ³ /hX 0.3MPaX3.7kW	277
FO Service Pump	1	2m ³ /hX0.25MPaX0.75kW	223
LO Transfer Pump	1	1m ³ /hX0.25MPaX0.75kW	162
Gray Water Transfer Pump	2	8m ³ /hX40mX3.7kW	522
Anchoring LTCFW Pump	1	Centrifugal	256
Labo. Sea Water Pump	1		480
Sea Water Pump for OPCS	1		360
Portable Pump	2		38
Marine Growth Prevention Eq.	2		3,240
Drink Water Sterilizer	1		3,600
Oily Water Separator	1	0.25m ³ /h (15ppm)	900
Flow Meter	1 set		2,400
E/R Supply Ventilation Fan	2		2,736
E/R Exhaust Ventilation Fan	1		314
Dehumidification Equipment	1	25 Nm ³ /m ³ ×0.69MPa	576
Transceiver	5		135
Workshop Equipment	1 set		4,160
Machinery Part Spare Parts	1 set		8,209
Propulsion Control Console	1		5,760
Winch Control Console	1		3,240

Equipment	Q'ty	Particulars	Cost
Engine Control Console	1		13,320
Engine Side Panel	1		2,160
Engine Control Room Equip.	1		640
Engine Data Logger System	1		36,000
Engine Telegraph	1		3,600
Spare Parts Maintenance Control system	1		13,500
Tank Level Gauge	1		8,640
Shaft Power Indicator	1		2,520
Sensors	1		11,308
Automation Adjustment	1		14,086
Total (Machinery Part)			551,701

10. Electric Part

(in thousands yen)

Equipment	Q'ty	Particulars	Cost
Receptacle	1 set		617
Storage Battery	1 set		3,309
Transformer	1 set		2,679
Shore Connection Box	1		320
Main Switchboard	1		14,256
Emergency Switchboard	1		3,096
Battery Charger Panel	1		1,728
Electric Motors	1 set		15,278
Starter	1 set		12,160
Bow-thruster Starter Panel	1		2,358
Receptacle for Power Source	1 set		37
Group Starter	1 set		2,894
Wheelhouse Group Starter	1 set		6,947
General Lighting	1 set		2,702
Movable Light	4		48
Flood Light	1 set		221
Search Light	2	Xenon lamp, remote control, 6kW	13,712
Search Light	1	Xenon lamp, remote control, 3kW	5,659
Flood Light	40	Halogen lamp, 500W	926
Mast Head Light	2		236
Side Light	1 pair		236
Stern Light	1		35
Anchor Light	2		85
Red Light	1		45

Equipment	Q'ty	Particulars	Cost
Fishing Light	3		168
Signal for Trawler	4		123
Day Light Signal Light	1		45
Life Saving Lights	1 set		482
Onboard Crew Display	1		1,710
"Observation" Display Lamp	1		54
Electric Part Spare Parts	1		244
Magnetic Compass	1	reflector type, card dia. 165mm	835
Gyro Compass	1	IMO approved type	6,620
Satellite Compass	1	4.5" LCD with DGPS function,	1,240
Auto Pilot	1		4,824
Joystick Control System	1 set		36,000
Marine Radar	2	X band, 25kW, 96 n.mile	11,700
Color Video Plotter	1	10.4" TFT LCD Display,	3,008
ECDIS	1	23.1" color LCD, Position Calculation,	14,360
Ship LAN System	1		81,000
GPS Navigator	2	6" LCD with DGPS function,	3,200
Doppler Speed Log	1		1,080
AIS	1		2,400
Automatic Weather Station	1		15,660
Aneroid Barometer	2		270
Navigational Echo Sounder	1	6.5" color LCD, 50 and 200 kHz,	704
Depth Display	3		480
Loading Calculator	1		2,250
Quartz Clock	1 set		1,549
Inclinometer	2		248
Ruder Angle Indicator	1		1,350
Air Horn	1		200
Piston Horn			728
Time Controller	1		139
Auto-exchange Telephone	1 set		10,291
NO.1 Common Battery Tele.	1		344
NO.2 Common Battery Tele.	1		128
NO.3 Common Battery Tele.	1		75
Bell System	1 set		80
Public Addresser	1 set		11,578
Fire Detecting System	1		515
Ref. Chamber Alarm	1		120

Equipment	Q'ty	Particulars	Cost
Radio, Television System	1 set		11,047
Business equipment	1 set		411
Radio Equipment		A1+A2+A3	19,213
No.1 MF/HF Radio Telephone	1		7,200
No.1 VHF Telephone	1		1,040
NAVTEX Receiver	2		600
EPIRB	1		360
Two-way Radio Telephone	3		960
Radar Transponder (SART)	2		640
INMARSAT-C System	1		2,400
No.2 VHF Radio Telephone	1		800
Shipboard Maintenance Equip.	1 set		4,000
Inmarsat Fleet Broadband	1 set		9,500
MF/HF Radio Telephone	1		2,400
All-wave Receiver	2		2,560
27MHz DSB Receiver	1		280
27MHz SSB Receiver	1		960
40MHz DSB Receiver	1		320
Onboard Radio Telephone	6		2,640
Weather Facsimile	1		1,280
Antenna System	1 set		2,840
Monitor TV System	2 sets	for deck and engine room	11,192
BNWAS	1		1,500
V-SAT	1		6,100
Total (Electric Part)			395,629

11. Survey Equipment (Japan)

(in thousands yen)

Equipment	Q'ty	Particulars	Cost
2,000m CTD Winch	1	7.84kN×60m/min, ϕ 6.4×2,000m(armored)	12,870
2,000m Hydrography Winch	1	5.9kN×60m/min, ϕ 5(SUS)×2,000m	12,800
Multi Net Winch	1	25.5kN×60m/min, ϕ 10.52×2,000m(armored)	18,300
Hoist for Deck Use	2	0.9t×12m/min	1,120
Hoist for CTD Dolly	1	0.25t×7m/min	800
Mid Space Crane (fishing)	1	8.82/14.7kN ×9.0/6.4m	9,045
Deck Crane	1	24.5/20.0kN ×11.5/14.1m	32,175
A Frame (aft)	1	SWL 53.9kN, outreach 3.0m	21,904
A Frame (midship)	1	SWL 29.4kN, outreach 3.0m	30,060
Davit for Observation	1	0.5t×3m/r	6,400

Equipment	Q'ty	Particulars	Cost
Larva Net	1 set		375
Block Rack	1 set		640
Reverse osmosis water purifier	1	Aquarius RFP542HA 25L/h at 25°C	568
Ultra-Pure Water Generator	1	Aquarius FRU414CA/CB 0.65L/min	906
Deep Freezer	1	-86°C, 350×1	696
Sample Storage Freezer	1	-25°C 3650 × 1	440
Medical Refrigerator	1	100~2000, 2 point temp. alarm	520
Fish Finding Sonar	1	FURUNO FSV-35	29,800
Multiple Corer	1	4 transparent PVC tubes	6,810
Bottom Grab	1	Van Veen Grab Sampler	500
CTD System Dolly	1		800
CTD System Pedestal	1 set		80
Survey Equipment	1 set		2,800
Sediment Electric Grinder	1		150
PH Meter	1	HORIBA	85
Onboard Sediment Sieving System	1		1,000
Clean Oven	1	990, 0-250°C	250
Stereoscopic Microscope	2	Nikon SMZ 1000	900
Ichthyometer	2		10
Marine Precision Scale	2	Max.800g, precision 0.01g	160
Total (Survey Equip.(Japan))			192,964

12. Survey Equipment (Import)

(in thousands yen)

Equipment	Q'ty	Particulars	Cost
CTD System	1 set	Sea Bird, SBE 911plus CTD	28,830
Hydro-Bios MultiNet	1	Type Midi Net opening 0.25m ²	11,394
ADCP	1	Ocean Surveyor 150kHz	15,030
L-ADCP	1	T. RD Instruments	6,020
Doppler Current Meter	4	SEAGUARD, 4 sets, RCM, 2,000m	18,604
Mooring System	2 sets		23,440
Tide Meter	1	SEAGUARD WLR, 4647C-300m	1,980
Scientific Fish Finder	1	SIMRAD EK60, 18/38/120/200kHz	51,930
Data Processing Soft-ware			11,013
Scientific Multibeam Sonar	1	SIMRAD ME70	144,000
Multibeam Echo Sounder	1	SIMRAD ME710, Depth 1500m	82,800
Multibeam Analysis Soft	1		4,050
Synchronous Transmitter	1		12,870
Scanbas System	1 set	SCANMAR	41,589

Equipment	Q'ty	Particulars	Cost
Particle Analysis and Imaging	1	FlowCAM	16,500
OPCS(LOPC-S)	1 set		29,600
Gyrocompass and Motion Sensor	1	KONGSBERG Seapath 300	15,210
Alkalinity & Dissolved Inorganic Carbon Extraction	1	MARIANDA VINDTA 3C	7,600
Particle Size Analyzer	1	Micrometritics SediGraph 5100	14,870
Inverted Microscope	2	Leica DM IL LED	900
Scale(big)	1	Max.60kg, precision 5g	2,000
Scale(small)	2	Max.3kg, precision 0.1g	3,100
Total (Survey Equip.(Import))			543,330

13. Fishing Equipment

(in thousands yen)

Equipment	Q'ty	Particulars	Cost
Auto Tension Winch System	1 set		36,000
Warp Winch	2	85/59/36kN×55/80/130m/mim	100,800
Net Winch	2	Bottom × 1, Pelagic × 1	70,000
Fishing Winch	2	29.4kN×40m/min. φ 14mm×40m S.W.R.	8,720
Trawl Winch Control Stand	1		64,000
Otter Board for bottom trawl	2 pair		14,400
Otter Board for pelagic	1 pair		7,200
Otter Board Accessories	1 set		855
Bottom Trawl Net	2	for Fishes	25,200
Bottom Trawl Net	2	for Cephalopods	27,000
Bottom Trawl Net	2	for Shrimp/Hake	45,000
Pelagic Trawl Net	2	for Fishes	55,800
Warp	2	T6×WS(26), φ 18mm×5000m	20,000
Fishing Gear and Tool	1 set		2,400
Slipway Door	1		5,440
Horizontal Roller	1 set		800
Top Roller	2		6,400
Total (Fishing Equipment)			490,015

6-2. Disbursement and Repayment Schedule

(1) Disbursement Schedule

Plan A: General Untied

Item	Total			2014			2015			2016			2017			2018			2019			2020		
	FC	LC	Total	FC	LC	Total	FC	LC	Total	FC	LC	Total	FC	LC	Total	FC	LC	Total	FC	LC	Total	FC	LC	Total
A. ELIGIBLE PORTION	6,132	0	6,132	0	0	0	0	0	0	0	0	0	0	0	0	1,481	0	1,481	3,024	0	3,024	1,628	0	1,628
Building Cost	4,310	0	4,310	0	0	0	0	0	0	0	0	0	0	0	0	1,077	0	1,077	2,155	0	2,155	1,077	0	1,077
Design Cost	381	0	381	0	0	0	0	0	0	0	0	0	0	0	0	90	0	90	181	0	181	90	0	90
General Expenses	283	0	283	0	0	0	0	0	0	0	0	0	0	0	0	71	0	71	142	0	142	71	0	71
Other Expenses	25	0	25	0	0	0	0	0	0	0	0	0	0	0	0	6	0	6	12	0	12	6	0	6
Transportation	54	0	54	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	54	0	54
Training for Officers and Crews at Shipyard	10	0	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	0	10
Familiarization of Equipment in Morocco	5	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	5
Base cost for JICA financing	5,048	0	5,048	0	0	0	0	0	0	0	0	0	0	0	0	1,245	0	1,245	2,490	0	2,490	1,313	0	1,313
Price escalation	793	0	793	0	0	0	0	0	0	0	0	0	0	0	0	165	0	165	390	0	390	237	0	237
Physical contingency	292	0	292	0	0	0	0	0	0	0	0	0	0	0	0	71	0	71	144	0	144	78	0	78
II) Consulting services	484	3	513	0	0	0	13	201	1	212	1	212	28	0	30	82	0	86	85	0	89	76	1	83
Base cost	411	3	438	0	0	0	12	176	1	187	1	187	24	0	25	69	0	73	70	0	73	61	1	68
Price escalation	50	0	51	0	0	0	1	15	0	15	0	3	0	3	0	9	0	9	11	0	11	11	0	11
Physical contingency	19	0	21	0	0	0	1	10	0	10	1	1	0	1	1	4	0	4	4	0	4	4	0	4
Total (I + II)	6,616	3	6,646	0	0	0	12	201	1	212	1	212	28	0	30	1,563	0	1,567	3,109	0	3,112	1,704	1	1,711
B. NON ELIGIBLE PORTION	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
a) Procurement / Construction	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Base cost for JICA financing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Price escalation	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Physical contingency	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
b) Land Acquisition	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Base cost	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Price escalation	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Physical contingency	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
c) Administration cost	0	38	332	0	0	0	0	1	11	11	1	11	0	0	2	9	78	0	18	0	18	156	0	10
VAT	0	139	1,226	0	0	0	0	0	0	0	0	0	0	0	0	34	296	0	69	0	69	605	0	37
e) Import Tax	0	17	153	0	0	0	0	0	0	0	0	0	0	0	0	4	37	0	9	0	9	76	0	5
Total (a+b+c+d+e)	0	195	1,712	0	0	0	1	11	1	11	1	11	0	0	2	0	47	412	0	95	836	0	51	452
TOTAL (A+B)	6,616	198	8,358	0	0	0	12	201	2	223	2	223	28	0	32	1,563	47	1,979	3,109	95	3,948	1,704	52	2,163
C. Interest during Construction	171	0	171	0	0	0	0	0	0	0	0	0	0	0	0	21	0	21	63	0	63	87	0	87
Interest during Construction (Const.)	171	0	171	0	0	0	0	0	0	0	0	0	0	0	0	21	0	21	63	0	63	87	0	87
Interest during Construction (Consul.)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
D. Commitment Charge	48	0	48	7	0	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
GRAND TOTAL (A+B+C+D)	6,835	198	8,577	7	0	7	19	208	2	230	35	230	35	0	39	1,591	47	2,006	3,179	95	4,019	1,798	52	2,257
GRAND TOTAL (excluding VAT & import duty)	6,835	41	7,197	7	0	7	19	208	2	230	35	230	35	0	39	1,591	9	1,673	3,179	18	3,338	1,798	11	1,890
E. JICA finance portion (A)	6,616	3	6,646	0	0	0	12	201	1	212	1	212	28	0	30	1,563	0	1,567	3,109	0	3,112	1,704	1	1,711

Plan A: STEP

Item	Total		2014		2015		2016		2017		2018		2019						
	FC	LC	FC	LC	FC	LC	FC	LC	FC	LC	FC	LC	FC	LC					
A. ELIGIBLE PORTION																			
I) Procurement / Construction	6,261	0	6,261	0	0	0	0	0	0	1,490	0	1,490	0	1,521	3,250	0	3,250		
Building Cost	4,439	0	4,439	0	0	0	0	0	0	1,110	0	1,110	0	1,110	2,219	0	2,219		
Design Cost	361	0	361	0	0	0	0	0	0	90	0	90	0	90	181	0	181		
General Expenses	289	0	289	0	0	0	0	0	0	72	0	72	0	72	144	0	144		
Other Expenses	27	0	27	0	0	0	0	0	0	7	0	7	0	7	13	0	13		
Transportation	98	0	98	0	0	0	0	0	0	0	0	0	0	0	98	0	98		
Delivery in Morocco	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Training for Officers and Crews in Japan	13	0	13	0	0	0	0	0	0	0	0	0	0	0	13	0	13		
Familiarization of Equipment in Morocco	7	0	7	0	0	0	0	0	0	0	0	0	0	0	7	0	7		
Base cost for JICA financing	5,234	0	5,234	0	0	0	0	0	0	1,279	0	1,279	0	1,279	2,676	0	2,676		
Price escalation	729	0	729	0	0	0	0	0	0	140	0	140	0	170	419	0	419		
Physical contingency	298	0	298	0	0	0	0	0	0	71	0	71	0	72	195	0	195		
II) Consulting services	302	2	321	0	3	0	3	67	0	70	65	1	71	50	0	52	116	1	125
Base cost	255	2	273	0	3	0	3	59	0	61	56	1	61	42	0	44	95	1	103
Price escalation	32	0	32	0	0	0	0	5	0	5	6	0	6	6	15	0	15	0	15
Physical contingency	14	0	15	0	0	0	0	3	0	3	3	0	3	2	0	2	6	0	6
Total (I + II)	6,562	2	6,582	0	3	0	3	67	0	70	1,555	1	1,561	1,572	0	1,574	3,365	1	3,374
B. NON ELIGIBLE PORTION																			
a Procurement / Construction	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Base cost for JICA financing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Price escalation	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Physical contingency	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
b Land Acquisition	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Base cost	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Price escalation	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Physical contingency	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
c Administration cost	0	37	329	0	0	0	0	0	0	3	0	9	78	0	9	79	0	19	169
d VAT	0	142	1,252	0	0	0	0	0	0	0	0	34	298	0	35	304	0	74	650
e Import Tax	0	18	157	0	0	0	0	0	0	0	0	4	37	0	4	38	0	9	81
Total (a+b+c+d+e)	6,624	40	6,972	0	7	10	74	1	80	1,565	48	1,984	1,584	48	2,007	3,354	103	4,293	
TOTAL (A+B)	6,562	200	8,320	0	3	67	73	1	73	1,555	48	1,974	1,572	48	1,995	3,365	103	4,274	
C. Interest during Construction																			
Interest during Construction(Const.)	22	0	22	0	0	0	0	0	0	3	0	3	6	0	6	13	0	13	
Interest during Construction (Consul.)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
D. Commitment Charge																			
Commitment Charge	40	0	40	7	7	0	7	7	0	7	7	0	7	7	0	7	7	0	7
GRAND TOTAL (A+B+C+D)	6,624	200	8,381	7	10	74	1	80	74	1	80	1,584	1,584	48	2,007	3,354	103	4,293	
GRAND TOTAL (excluding VAT & import duty)	6,624	40	6,972	7	10	74	1	80	74	1	80	1,584	1,584	9	1,695	3,354	20	3,562	
E. JICA finance portion incl. IDC (A)	6,562	2	6,582	0	3	67	0	70	1,555	1	1,561	1,572	0	1,574	3,365	1	3,374		

Plan B: General Untied

Item	Total			2014			2015			2016			2017			2018			2019			2020			
	FC	LC	Total	FC	LC	Total	FC	LC	Total	FC	LC	Total	FC	LC	Total	FC	LC	Total	FC	LC	Total	FC	LC	Total	
A. ELIGIBLE PORTION																									
1.) Procurement / Construction	5,171	0	5,171	0	0	0	0	0	0	0	0	0	0	0	0	1,247	0	1,247	2,546	0	2,546	1,378	0	1,378	
Building Cost	3,542	0	3,542	0	0	0	0	0	0	0	0	0	0	0	0	886	0	886	1,771	0	1,771	886	0	886	
Design Cost	361	0	361	0	0	0	0	0	0	0	0	0	0	0	0	90	0	90	181	0	181	90	0	90	
General Expenses	204	0	204	0	0	0	0	0	0	0	0	0	0	0	0	66	0	66	132	0	132	66	0	66	
Other Expenses	25	0	25	0	0	0	0	0	0	0	0	0	0	0	0	6	0	6	12	0	12	6	0	6	
Transportation	49	0	49	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Training for Officers and Crews at Shipyard	10	0	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Familiarization of Equipment in Morocco	5	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Base cost for JICA financing	4,256	0	4,256	0	0	0	0	0	0	0	0	0	0	0	0	1,048	0	1,048	2,096	0	2,096	1,112	0	1,112	
Price escalation	669	0	669	0	0	0	0	0	0	0	0	0	0	0	0	139	0	139	328	0	328	201	0	201	
Physical contingency	246	0	246	0	0	0	0	0	0	0	0	0	0	0	0	59	0	59	121	0	121	66	0	66	
II.) Consulting services	484	3	513	0	0	0	12	0	13	201	1	212	28	0	30	82	0	86	85	0	89	76	1	83	
Base cost	411	3	438	0	0	0	11	0	12	176	1	187	24	0	26	89	0	93	70	0	73	61	1	68	
Price escalation	50	0	51	0	0	0	1	0	1	15	0	15	3	0	3	9	0	9	11	0	11	11	0	11	
Physical contingency	19	0	21	0	0	0	1	0	1	10	0	10	1	0	1	4	0	4	4	0	4	4	0	4	
Total (I + II)	5,655	3	5,685	0	0	0	12	0	13	201	1	212	28	0	30	1,329	0	1,333	2,631	0	2,635	1,454	1	1,461	
B. NON ELIGIBLE PORTION																									
a) Procurement / Construction	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Base cost for JICA financing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Price escalation	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Physical contingency	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
b) Land Acquisition	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Base cost	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Price escalation	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Physical contingency	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
c) Administration cost	0	32	284	0	0	0	0	0	1	0	1	11	0	0	2	0	8	67	0	15	132	0	8	73	
d) VAT	0	118	1,034	0	0	0	0	0	0	0	0	0	0	0	0	0	28	249	0	58	509	0	31	276	
e) Import Tax	0	15	129	0	0	0	0	0	0	0	0	0	0	0	0	0	4	31	0	7	64	0	4	34	
Total (a+b+c+d+e)	0	165	1,448	0	0	0	0	0	1	0	1	11	0	0	2	0	39	347	0	80	705	0	44	383	
TOTAL (A+B)	5,655	166	7,132	0	0	0	12	0	14	201	2	223	28	0	32	1,329	40	1,680	2,631	80	3,339	1,454	44	1,845	
C. Interest during Construction																									
Interest during Construction(Const.)	144	0	144	0	0	0	0	0	0	0	0	0	0	0	0	17	0	17	53	0	53	73	0	73	
Interest during Construction (Consul.)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
D. Commitment Charge																									
GRAND TOTAL (A+B+C+D)	5,840	168	7,317	6	0	6	18	0	19	207	2	229	34	0	38	1,352	40	1,704	2,690	80	3,398	1,533	44	1,924	
GRAND TOTAL (excluding VAT & Import duty)	5,940	36	6,154	6	0	6	18	0	19	207	2	229	34	0	38	1,352	8	1,423	2,690	16	2,926	1,533	9	1,614	
E. JICA finance portion incl. IDC (A)	5,655	3	5,685	0	0	0	12	0	13	201	1	212	28	0	30	1,329	0	1,333	2,631	0	2,635	1,454	1	1,461	

Plan B: STEP

Item	Total			2014			2015			2016			2017			2018			2019			
	FC	LC	Total	FC	LC	Total	FC	LC	Total	FC	LC	Total	FC	LC	Total	FC	LC	Total	FC	LC	Total	
A. ELIGIBLE PORTION																						
I) Procurement / Construction	5,299	0	5,299	0	0	0	0	0	0	0	0	0	0	0	0	1,257	0	1,257	0	1,283	0	1,283
Building Cost	3,663	0	3,663	0	0	0	0	0	0	0	0	0	0	0	0	916	0	916	0	916	0	916
Design Cost	361	0	361	0	0	0	0	0	0	0	0	0	0	0	0	90	0	90	0	90	0	90
General Expenses	269	0	269	0	0	0	0	0	0	0	0	0	0	0	0	67	0	67	0	67	0	67
Other Expenses	22	0	22	0	0	0	0	0	0	0	0	0	0	0	0	6	0	6	0	6	0	6
Transportation	93	0	93	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Delivery in Morocco	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Training for Officers and Crews in Japan	13	0	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Familiarization of Equipment in Morocco	7	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Base cost for JICA financing	4,429	0	4,429	0	0	0	0	0	0	0	0	0	0	0	0	1,079	0	1,079	0	1,079	0	1,079
Price escalation	617	0	617	0	0	0	0	0	0	0	0	0	0	0	0	118	0	118	0	143	0	143
Physical contingency	252	0	252	0	0	0	0	0	0	0	0	0	0	0	0	60	0	60	0	61	0	61
II) Consulting services	302	2	321	0	3	3	67	0	3	67	0	70	50	1	71	71	50	0	52	116	1	125
Base cost	255	2	273	0	3	3	59	0	3	59	0	61	56	1	61	61	42	0	44	95	1	103
Price escalation	32	0	32	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Physical contingency	14	0	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total (I + II)	5,600	2	5,620	0	3	3	67	0	3	67	0	70	1,322	1	1,328	1,334	0	1,336	2,874	0	1,336	2,874
B. NON ELIGIBLE PORTION																						
a Procurement / Construction	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Base cost for JICA financing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Price escalation	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Physical contingency	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
b Land Acquisition	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Base cost	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Price escalation	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Physical contingency	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
c Administration cost	0	32	281	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
VAT	0	120	1,060	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Import Tax	0	15	132	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total (a+b+c+d+e)	0	167	1,473	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL (A+B)	5,600	170	7,093	0	3	3	67	1	73	1,322	40	1,677	1,334	41	1,691	2,874	88	3,648				
C. Interest during Construction																						
Interest during Construction(Const.)	18	0	18	0	0	0	0	0	0	0	0	0	0	0	0	3	5	0	5	11	0	11
Interest during Construction (Consul.)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
D. Commitment Charge																						
Commitment Charge	34	0	34	6	0	6	6	0	6	6	0	6	6	0	6	6	0	6	6	6	0	6
GRAND TOTAL (A+B+C+D)	5,653	170	7,145	6	9	15	73	1	79	1,331	40	1,685	1,344	41	1,702	2,880	88	3,664				
GRAND TOTAL (excluding VAT & import duty)	5,653	34	5,953	6	0	6	9	73	1	79	1,331	8	1,403	1,344	8	1,413	2,890	17	3,043			
E. JICA finance portion incl. IDC (A)	5,600	2	5,620	0	0	0	3	67	0	3	67	0	70	1,322	1	1,328	1,334	0	1,336	2,874	1	2,883

2. STEP LOAN			40 years																				Total	
Repayment Period	Grace Period	Interest Rate	Interest Rate																				Total	
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20		
(for consulting service)																								
PLAN A																								
Principal (Vessel)	0	0	1,490,008	1,521,269	3,249,531																		6,260,838	
(Consultant)	0	3,257	69,966	52,419	124,539																		321,077	
Interest (Vessel)	0	0	0	0	12,522	12,547	12,572	12,597	12,622	12,647	12,671	12,696	12,721	12,746	12,771	12,796	12,821	12,846	12,871	12,896	12,921	12,946	12,971	157,970
(Consultant)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	402	
Repayment (Vessel)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6,418,808	
(Consultant)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	321,479	
Balance (Vessel)	0	0	1,490,008	3,011,307	6,260,838	6,273,360	6,285,882	6,298,404	6,310,926	6,323,448	6,335,970	6,348,492	6,361,014	6,373,536	6,386,058	6,398,580	6,411,102	6,423,624	6,436,146	6,448,668	6,461,190	6,473,712	6,486,234	6,498,756
(Consultant)	0	3,257	73,223	144,119	196,538	321,077	321,109	321,141	321,173	321,205	321,237	321,269	321,301	321,333	321,365	321,397	321,429	321,461	321,493	321,525	321,557	321,589	321,621	6,581,915
PLAN B																								
Principal (Vessel)	1	0	0	1,257,075	1,283,474	2,758,262																		
(Consultant)	0	3,257	69,966	52,419	124,539																			
Interest (Vessel)	0	0	0	0	10,598	10,619	10,640	10,661	10,683	10,704	10,725	10,746	10,767	10,788	10,809	10,830	10,851	10,872	10,893	10,914	10,935	10,956	10,977	
(Consultant)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7,545	
Repayment (Vessel)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
(Consultant)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Balance (Vessel)	0	0	0	1,257,075	2,540,549	5,298,811	5,309,409	5,320,007	5,330,605	5,341,203	5,351,801	5,362,399	5,373,000	5,383,600	5,394,200	5,404,800	5,415,400	5,426,000	5,436,600	5,447,200	5,457,800	5,468,400	5,479,000	
(Consultant)	0	3,257	73,223	144,119	196,538	321,077	321,109	321,141	321,173	321,205	321,237	321,269	321,301	321,333	321,365	321,397	321,429	321,461	321,493	321,525	321,557	321,589	5,619,888	
Total																								
5,298,811																								
321,077																								
133,897																								
402																								
134,099																								
5,432,508																								
321,479																								
5,753,987																								
0																								
183,250																								
10,722																								
(0)																								

6-3. Operation and Maintenance Cost

(1) New Research Vessel (Plan A: 1,100 G/T)

Operating Year	New Research Vessel (1,100 G/T)																								
	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
Personnel Expenses	2,967,124	2,967,124	2,967,124	2,967,124	2,967,124	2,967,124	2,967,124	2,967,124	2,967,124	2,967,124	2,967,124	2,967,124	2,967,124	2,967,124	2,967,124	2,967,124	2,967,124	2,967,124	2,967,124	2,967,124	2,967,124	2,967,124	2,967,124	2,967,124	2,967,124
Per Diem & Food Allowance	2,642,120	2,642,120	2,642,120	2,642,120	2,642,120	2,642,120	2,642,120	2,642,120	2,642,120	2,642,120	2,642,120	2,642,120	2,642,120	2,642,120	2,642,120	2,642,120	2,642,120	2,642,120	2,642,120	2,642,120	2,642,120	2,642,120	2,642,120	2,642,120	2,642,120
CHRS	5,693,244	5,693,244	5,693,244	5,693,244	5,693,244	5,693,244	5,693,244	5,693,244	5,693,244	5,693,244	5,693,244	5,693,244	5,693,244	5,693,244	5,693,244	5,693,244	5,693,244	5,693,244	5,693,244	5,693,244	5,693,244	5,693,244	5,693,244	5,693,244	
Sub-Total	11,272,468	11,272,468	11,272,468	11,272,468	11,272,468	11,272,468	11,272,468	11,272,468	11,272,468	11,272,468	11,272,468	11,272,468	11,272,468	11,272,468	11,272,468	11,272,468	11,272,468	11,272,468	11,272,468	11,272,468	11,272,468	11,272,468	11,272,468	11,272,468	
Miscellaneous Expenses	200,000	200,000	200,000	200,000	200,000	200,000	200,000	200,000	200,000	200,000	200,000	200,000	200,000	200,000	200,000	200,000	200,000	200,000	200,000	200,000	200,000	200,000	200,000	200,000	
Material Expenses	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	
Others	300,000	800,000	900,000	900,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	
Sub-Total	0	2,168,000	2,300,000	2,300,000	2,300,000	2,300,000	2,300,000	2,300,000	2,300,000	2,300,000	2,300,000	2,300,000	2,300,000	2,300,000	2,300,000	2,300,000	2,300,000	2,300,000	2,300,000	2,300,000	2,300,000	2,300,000	2,300,000	2,300,000	
Repair & Maintenance	880,613	880,613	880,613	880,613	880,613	880,613	880,613	880,613	880,613	880,613	880,613	880,613	880,613	880,613	880,613	880,613	880,613	880,613	880,613	880,613	880,613	880,613	880,613	880,613	
Others	880,613	3,197,486	3,241,489	3,285,492	3,329,495	3,373,497	3,417,500	3,461,503	3,505,505	3,549,507	3,593,509	3,637,511	3,681,513	3,725,515	3,769,517	3,813,519	3,857,521	3,901,523	3,945,525	3,989,527	4,033,529	4,077,531	4,121,533	4,165,535	
Sub-Total	1,761,226	4,078,101	4,122,104	4,166,107	4,210,109	4,254,111	4,298,113	4,342,115	4,386,117	4,430,119	4,474,121	4,518,123	4,562,125	4,606,127	4,650,129	4,694,131	4,738,133	4,782,135	4,826,137	4,870,139	4,914,141	4,958,143	5,002,145	5,046,147	
Fuel Oil	9,476,036	9,476,036	9,476,036	9,476,036	9,476,036	9,476,036	9,476,036	9,476,036	9,476,036	9,476,036	9,476,036	9,476,036	9,476,036	9,476,036	9,476,036	9,476,036	9,476,036	9,476,036	9,476,036	9,476,036	9,476,036	9,476,036	9,476,036	9,476,036	
Lubricant Oil	152,168	152,168	152,168	152,168	152,168	152,168	152,168	152,168	152,168	152,168	152,168	152,168	152,168	152,168	152,168	152,168	152,168	152,168	152,168	152,168	152,168	152,168	152,168	152,168	
Freshwater	13,820	13,820	13,820	13,820	13,820	13,820	13,820	13,820	13,820	13,820	13,820	13,820	13,820	13,820	13,820	13,820	13,820	13,820	13,820	13,820	13,820	13,820	13,820	13,820	
Sub-Total	9,642,024	9,642,024	9,642,024	9,642,024	9,642,024	9,642,024	9,642,024	9,642,024	9,642,024	9,642,024	9,642,024	9,642,024	9,642,024	9,642,024	9,642,024	9,642,024	9,642,024	9,642,024	9,642,024	9,642,024	9,642,024	9,642,024	9,642,024	9,642,024	
Port Charges	200,750	200,750	200,750	200,750	200,750	200,750	200,750	200,750	200,750	200,750	200,750	200,750	200,750	200,750	200,750	200,750	200,750	200,750	200,750	200,750	200,750	200,750	200,750	200,750	
Insurance	1,080,000	1,041,200	1,002,300	963,400	924,500	885,600	846,700	807,800	769,000	730,100	691,200	652,300	613,500	574,600	535,700	496,800	457,900	419,000	380,200	341,300	302,400	263,500	224,600	185,700	
Communication Exp.	300,000	300,000	300,000	300,000	300,000	300,000	300,000	300,000	300,000	300,000	300,000	300,000	300,000	300,000	300,000	300,000	300,000	300,000	300,000	300,000	300,000	300,000	300,000	300,000	
Sub-Total	1,580,750	1,342,400	1,304,600	1,266,800	1,228,900	1,191,100	1,153,300	1,115,500	1,077,700	1,039,900	1,002,100	964,300	926,500	888,700	850,900	813,100	775,300	737,500	699,700	661,900	624,100	586,300	548,500	510,700	
Total	13,133,444	16,790,793	17,087,671	17,384,549	17,681,427	17,978,305	18,275,183	18,572,061	18,868,939	19,165,817	19,462,695	19,759,573	20,056,451	20,353,329	20,650,207	20,947,085	21,243,963	21,540,841	21,837,719	22,134,597	22,431,475	22,728,353	23,025,231	23,322,109	
Regular Inspection																									

Salaries for Crew	No. of Person	Annual Salary (incl. Bonus)	Total (DHY/year)
Captain & 2nd Captain	2	297,711	595,422
Chef & 2nd Engineer	2	166,984	333,968
3rd & 4th Officers	2	153,186	306,372
Engineers	2	149,348	298,696
Radio operator	1	159,655	159,655
Boatswain	1	133,800	133,800
Deck hands	6	113,387	680,322
Other	1	116,387	116,387
Cook	1	122,804	122,804
Medical Officer	2	117,244	234,488
Researchers	20	0	0
Total	40		2,967,124

Fuel	Unit Price (DHT)	Consumption	Total (DHY)
Diesel Oil (without tax)	6.85 /L	130,000	890,500
Lubricant Oil	450.00 /20L	100	45,000

Navigation	No. of days for survey and navigation		Fuel Consumption (KL)		Fuel cost at total (KL)
	Acoustic	Travelling	Fixed station	Total	
Survey in Autumn	14.6	26.5	79.8	117.6	592.1
Survey in Spring	24.9	20.4	47.2	84.1	592.8
Ground Speed	12 knots	10 knots	13.5 knots	12.0	48.7
Fuel Consumption (L/hr)			275.0	618.2	1,425.0

Freshwater (On Land)	Lubricant Oil Consumption		AT Ports	Total (KL)
	Autumn (80 days)	Spring (71 days)		
Berthing fee (exp. 650.00 /FB)	2,764	2,715	2,715	6,794
Electricity Charge (Luf)	8,220	Change oil in sub-tank		14,983
Freshwater Tank	155			

(3) Existing Research Vessel (AMA)

Operating Year	Existing Research Vessel (AMA, 203 GT)																								
	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
Personnel Expenses	2,100,373	2,100,373	2,100,373	2,100,373	2,100,373	2,100,373	2,100,373	2,100,373	2,100,373	2,100,373	2,100,373	2,100,373	2,100,373	2,100,373	2,100,373	2,100,373	2,100,373	2,100,373	2,100,373	2,100,373	2,100,373	2,100,373	2,100,373	2,100,373	2,100,373
Per Diem & Food Allowance	1,315,970	1,315,970	1,315,970	1,315,970	1,315,970	1,315,970	1,315,970	1,315,970	1,315,970	1,315,970	1,315,970	1,315,970	1,315,970	1,315,970	1,315,970	1,315,970	1,315,970	1,315,970	1,315,970	1,315,970	1,315,970	1,315,970	1,315,970	1,315,970	
Others	3,416,343	3,416,343	3,416,343	3,416,343	3,416,343	3,416,343	3,416,343	3,416,343	3,416,343	3,416,343	3,416,343	3,416,343	3,416,343	3,416,343	3,416,343	3,416,343	3,416,343	3,416,343	3,416,343	3,416,343	3,416,343	3,416,343	3,416,343	3,416,343	
Sub-Total	6,832,686	6,832,686	6,832,686	6,832,686	6,832,686	6,832,686	6,832,686	6,832,686	6,832,686	6,832,686	6,832,686	6,832,686	6,832,686	6,832,686	6,832,686	6,832,686	6,832,686	6,832,686	6,832,686	6,832,686	6,832,686	6,832,686	6,832,686	6,832,686	
Mechanical Expenses	399,777	399,777	399,777	399,777	399,777	399,777	399,777	399,777	399,777	399,777	399,777	399,777	399,777	399,777	399,777	399,777	399,777	399,777	399,777	399,777	399,777	399,777	399,777	399,777	
Painting & Ports	270,144	270,144	270,144	270,144	270,144	270,144	270,144	270,144	270,144	270,144	270,144	270,144	270,144	270,144	270,144	270,144	270,144	270,144	270,144	270,144	270,144	270,144	270,144	270,144	
Sub-Total	670,921	670,921	670,921	670,921	670,921	670,921	670,921	670,921	670,921	670,921	670,921	670,921	670,921	670,921	670,921	670,921	670,921	670,921	670,921	670,921	670,921	670,921	670,921	670,921	
Repair & Maintenance	881,865	881,865	881,865	881,865	881,865	881,865	881,865	881,865	881,865	881,865	881,865	881,865	881,865	881,865	881,865	881,865	881,865	881,865	881,865	881,865	881,865	881,865	881,865	881,865	
Inspection Fee	1,045,545	1,045,545	1,045,545	1,045,545	1,045,545	1,045,545	1,045,545	1,045,545	1,045,545	1,045,545	1,045,545	1,045,545	1,045,545	1,045,545	1,045,545	1,045,545	1,045,545	1,045,545	1,045,545	1,045,545	1,045,545	1,045,545	1,045,545	1,045,545	
Others	1,927,010	1,927,010	1,927,010	1,927,010	1,927,010	1,927,010	1,927,010	1,927,010	1,927,010	1,927,010	1,927,010	1,927,010	1,927,010	1,927,010	1,927,010	1,927,010	1,927,010	1,927,010	1,927,010	1,927,010	1,927,010	1,927,010	1,927,010	1,927,010	
Sub-Total	4,126,754	4,126,754	4,126,754	4,126,754	4,126,754	4,126,754	4,126,754	4,126,754	4,126,754	4,126,754	4,126,754	4,126,754	4,126,754	4,126,754	4,126,754	4,126,754	4,126,754	4,126,754	4,126,754	4,126,754	4,126,754	4,126,754	4,126,754	4,126,754	
Fuel Expenses	59,468	59,468	59,468	59,468	59,468	59,468	59,468	59,468	59,468	59,468	59,468	59,468	59,468	59,468	59,468	59,468	59,468	59,468	59,468	59,468	59,468	59,468	59,468	59,468	
Freshwater	4,190,233	4,190,233	4,190,233	4,190,233	4,190,233	4,190,233	4,190,233	4,190,233	4,190,233	4,190,233	4,190,233	4,190,233	4,190,233	4,190,233	4,190,233	4,190,233	4,190,233	4,190,233	4,190,233	4,190,233	4,190,233	4,190,233	4,190,233	4,190,233	
Sub-Total	73,580	73,580	73,580	73,580	73,580	73,580	73,580	73,580	73,580	73,580	73,580	73,580	73,580	73,580	73,580	73,580	73,580	73,580	73,580	73,580	73,580	73,580	73,580	73,580	
Port Charges	1,081,847	1,081,847	1,081,847	1,081,847	1,081,847	1,081,847	1,081,847	1,081,847	1,081,847	1,081,847	1,081,847	1,081,847	1,081,847	1,081,847	1,081,847	1,081,847	1,081,847	1,081,847	1,081,847	1,081,847	1,081,847	1,081,847	1,081,847	1,081,847	
For Vessel	865,222	865,222	865,222	865,222	865,222	865,222	865,222	865,222	865,222	865,222	865,222	865,222	865,222	865,222	865,222	865,222	865,222	865,222	865,222	865,222	865,222	865,222	865,222	865,222	
Communication Exp.	13,632,755	12,530,474	12,387,332	12,897,257	13,495,236	12,933,869	12,836,976	12,516,098	13,257,257	13,610,504	12,553,289	13,369,956	11,281,249	0	0	0	0	0	0	0	0	0	0	0	0
Total	13,632,755	12,530,474	12,387,332	12,897,257	13,495,236	12,933,869	12,836,976	12,516,098	13,257,257	13,610,504	12,553,289	13,369,956	11,281,249	0	0	0	0	0	0	0	0	0	0	0	0
Regular inspection	x					x						x													

Salaries for Crew	No. of Personnel		Annual Salary (incl. Bonus) (DH/year)	On Land		On Sea		Total (DH/year)
	Navigation	Acoustic		Per Diem (DH/day)	Food (DH/day)	Per Diem (DH/day)	Navigation (DH/day)	
Captain & 2nd Captain	2	2	297,711	200	200	80	80	150,560
Chief & 2nd Engineer	1	1	168,984	200	200	80	80	75,280
3rd & 4th Officers	1	1	153,196	200	200	80	80	75,280
Deckhands	3	3	153,196	150	150	70	70	65,970
Boatswain	1	1	133,800	200	200	70	70	65,970
Deckhands	3	3	113,397	150	150	70	70	59,670
Cook	1	1	122,904	150	150	70	70	65,970
Others	0	0	117,267	200	200	0	0	402,200
Researched	7	7	0	200	200	0	0	1,315,970
Total	20	20	2,100,373	1,440	1,440	560	560	1,315,970

Fuel	Unit Price (DH)
Diesel Oil (without tax)	6.05 /L
Lubricant Oil	450.00 /20L

Navigation	No. of days for survey and navigation		Fuel Consumption (KL)		Fuel Annual consump. at Total (KL)
	Navigation	Acoustic	Trawling	Rest at port	
Navigation	10 knots	3 - 5 knots	0 knots	0 knots	0
Acoustic	10 knots	3 - 5 knots	0 knots	0 knots	0
Trawling	10 knots	3 - 5 knots	0 knots	0 knots	0
Rest at port	10 knots	3 - 5 knots	0 knots	0 knots	0
Total	10 knots	3 - 5 knots	0 knots	0 knots	0

Freshwater (On Land)	Lubricant Oil Consumption		Total (KL)
	Autumn	Spring (74 days)	
22.26 /m3	12.98	0.986	13.966
Boiling fee (exp. lightning)	200.00 /£		200.00
Electricity Charge (La)	2.13 /kwh		3.643
Freshwater Tank	18 /m3		18

Per Diem & Food Allowance for Crew and Researchers	On Land		On Sea		Total (DH/year)
	Per Diem (DH/day)	Food (DH/day)	Per Diem (DH/day)	Navigation (DH/day)	
Per Diem	200	200	80	80	150,560
Food	200	200	80	80	75,280
Navigation	150	150	70	70	65,970
Others	150	150	70	70	65,970
Total	500	500	200	200	402,200

Fuel Consumption (KL)	Trawling		Total
	Navigation	Rest at port	
Navigation	0	0	0
Rest at port	0	0	0
Total	0	0	0

Fuel Annual consump. at Total (KL)	Trawling		Total
	Navigation	Rest at port	
Navigation	0	0	0
Rest at port	0	0	0
Total	0	0	0

(4) Existing Research Vessel (CAI)

O & M Cost Existing Research Vessel (CAI - 387 GT)

Operating Year	Unit: DH																									Remarks
	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	
Personnel Expenses	Salaries for Crew	2,509,666	2,509,666	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2,509,666
	Per Diem & Food Allowance	1,091,600	1,023,200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1,057,400
Material Expenses	Sub-Total	3,601,266	3,532,866	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3,567,066
	Repair & Maintenance	951,687	951,687	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	951,687
Material Expenses	Paint for machinery	38,667	458,957	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	38,667
	Sanitation & coking	28,800	22,930	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	28,800
Repair Expenses	Sub-Total	777,906	781,351	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	779,479
	Repair & Maintenance	1,189,991	1,324,281	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1,257,638
Fuel Expenses	Inspection Fee	1,732,889	247,981	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1,019,875
	Others	2,982,079	1,572,322	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2,277,501
Fuel Expenses	Fuel Oil	2,775,237	2,540,858	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2,636,047
	Lubricant Oil	44,010	40,388	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	42,189
Port Charges	Freshwater	11,930	11,930	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11,930
	Sub-Total	2,831,176	2,593,175	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2,742,175
Insurance	Berthing Fee	146,760	146,760	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	146,760
	For Vessel	326,882	326,682	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	326,682
Communication Exp.	Shuttle communication	923,485	923,485	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	923,485
	Total	11,589,855	9,976,641	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10,733,148
Regular inspection	X																									

Salaries for Crew

	No. of Person	Annual Salary (incl. Bonus)	Total (DH/year)
Captain & 2nd Captain	2	287,711	575,422
Crew & 2nd Engineer	2	166,984	333,968
3rd & 4th Officers	2	153,196	306,392
Radio operator	1	159,635	159,635
Boatsman	1	133,800	133,800
Deck hands	3	118,397	355,191
Cook	1	122,904	122,904
Others	1	117,267	117,267
Researchers	7	0	0
Total	21	1,509,666	1,509,666

Fuel	Unit Price(DH)
Diesel Oil (without tax)	6.65 /L
Lubricant Oil	460.00 /20L

Navigation	Acoustic	Towing	Vector at sea	Resat port	No. of days for survey and navigation	
					Total	No. of days for survey and navigation
1st year (2013)	33.1	0.1	25.1	11.0	97.1	145.0
2nd year (2019)	31.0	0.0	20.3	25.7	111.0	168.0
Cruising Speed	7 knots	3-4 knots				

Freshwater (On Land)	22.20 /m3
Berthing fee (exp. (station port))	200.00 /#
Electricity Charge (Lil)	2.13 /kwh
Freshwater Tank	54 /m3

Per Diem & Food Allowance for Crew and Researchers

Per Diem (DH/day/psn)	Food (DH/day/psn)	On Land (DH/day/psn)		On Sea (DH/day/psn)		Total (DH/year)	
		1st Year	2nd Year	1st Year	2nd Year	1st Year	2nd Year
200	200	200	200	80	80	113,440	107,860
200	200	200	200	80	80	113,440	107,860
200	200	200	200	80	80	113,440	107,860
150	200	200	200	70	70	49,630	47,110
150	200	200	200	70	70	49,630	47,110
150	200	200	200	70	70	49,630	47,110
150	200	200	200	70	70	49,630	47,110
150	200	200	200	70	70	49,630	47,110
200	200	200	200	0	0	248,800	245,800
						1,037,000	1,063,200

On sea	1st Year	2nd Year
On land	86	77
	273	289

Fuel Consumption (KL)	Navigation	Acoustic	Towing	Vector at sea	Resat port	Total	
						Navigation	Acoustic
145.0	145.0	0.0	147.3	12.3	4.2	310.2	417.3
140.5	140.5	0.0	119.1	11.9	4.2	271.5	382.1
						16.0	

Lubricant Oil Consumption	Navigation	Acoustic	Towing	Vector at sea	Resat port	Total
Navigation	268.8	0.0	244.5	19.3	16.0	
At ports	268.8	0.0	244.5	19.3	16.0	
Nav. 97	420	0.52	1,956			
Nav. 88	277	0.54	1,795			
Nav. 88	1,241	0.54	1,795			

ANNEX 7. TECHNICAL ASSISTANCE (T/A)

Project Design Matrix (PDM) ver.-1

February 12, 2013

Project Name : The Project for Capacity Development on Operation and Maintenance of Fishery Research Vessel (Tentative)

Project Area : All regions of Morocco

Borrower : Ministry of Economy and Finance

Implementing Agency : DPM (for administrative matter), INRH (for technical matter)

Operation and Maintenance Agency : INRH

Direct beneficiaries : approx. 159 staff of INRH (113 researchers + 46 crews)

Duration : 3 years

Project Summary	Indicators for Evaluation	Methods for obtaining Indicators	Assumptions
<p><u>Super Goal</u></p> <ol style="list-style-type: none"> 1. Fishery resources evaluation is conducted. 2. Eco-system evaluation is conducted. 	<ul style="list-style-type: none"> • TAC (Total Allowable Catch) is estimated for species other than octopus and small pelagics (Stock C). • Fishery resource data and information are provided to fishers. 	<ul style="list-style-type: none"> • Official gazettes • INRH Activity reports 	<ul style="list-style-type: none"> • No researchers of INRH is resigned and/or replaced. • Eco-system based fishery resource analysis and evaluation methods is elaborated.
<p><u>Project Objectives</u></p> <p>The appropriate system for survey data collection by a new research vessel is established.</p>	<ul style="list-style-type: none"> • At least 2 years data for fishery resources evaluation are collected and compiled in the onshore laboratory. • At least 2 years data for eco-system evaluation are collected and compiled in the onshore laboratory. • Fishing ground maps in the survey zone are prepared. 	<ul style="list-style-type: none"> • Project reports • Fishing ground maps 	<ul style="list-style-type: none"> • No researchers and crews is resigned and/or replaced.
<p><u>Outputs</u></p> <ol style="list-style-type: none"> 1. Operation and management system of a new research vessel is established. 2. Operational capacity of a new research vessel is developed, and the sampling technique using trawl gear is upgraded. 3. Operational capacity of scientific equipment is developed, and the data which has high reliability and are compatible to the existing data are collected. 	<ol style="list-style-type: none"> 1-1. Inventories for control of materials and spareparts are prepared. 1-2. Maintenance manuals for hull, engines, machineries and equipment are prepared. 1-3. Financial reports on operation and maintenance of a new research vessel are prepared. 1-4. Survey navigation plans including budget plans for at least 2 years after the completion of this technical cooperation project (TCP) are designed. 1-5. Discussions on joint researches with the relevant organizations are made. 2-1. A new research vessel is operated for the period equivalent to 85% of the survey design (Annual number of operating days : at least 145 days). 2-2. Biological samples are collected and treated using trawl gears (including trawl sensors, ADCP and scanning sonar) (Sampling of 9 demersal species (260 stations/year), 1 deepsea shrimp (80 stations/year), and 8 small pelagic species (300 stations/year)). 3-1. Acoustic data in 4 frequencies (18, 38, 120, 200kHz) necessary for fishery stock assessment are collected and processed (acoustic survey track-9,000 nautical miles/year). 3-2. Eco-system survey data are collected and processed (benthos/sediments : 230 stations/year, multi-net : 450 stations/year, CTD : 1,000 stations/year, water sampling and fish larva samples : 450 stations/year). 3-3. Bathymetric data necessary for sea bottom mapping are collected and processed (demersal and deepsea : 80 stations). 	<ul style="list-style-type: none"> • Inventories for control of materials and spareparts • Maintenance manuals • Financial reports • Navigation plan • Navigation / Fishing / Engines logs • Survey reports • Survey reports 	<ul style="list-style-type: none"> • No researchers and crews is resigned and/or replaced.

<p><u>Activities</u></p> <p>1-1. Review of the current survey conducted so as to reflect the results to this TCP. 1-2. Review of maintenance status of the existing research vessels and equipments so as to reflect the results to this TCP. 1-3. Analysis of spareparts lists submitted by all manufacturers and preparation of stock control inventories. 1-4. Preparation of survey navigation plans (draft) and maintenance manuals (draft) for a new research vessel. 1-5. Execution of education and training of crews (in Japan and/or in third countries). 2-1. Conduct of survey navigation. 2-2. Operation of necessary machineries and equipment for navigation. 2-3. Trawl operation for biological sampling. 3-1. Conduct of OJT for stock assessment survey and eco-system survey. 3-2. Operation of necessary machineries and equipment for stock assessment survey and eco-system survey. 3-3. Collection of necessary data for stock assessment and eco-system evaluation.</p>	<p><u>Moroccan side</u></p> <p>1) Allocation of counterparts (C/P)</p> <p>2) Provision of the furnished Project office including office equipment</p> <p>3) Obtention of budget necessary for survey navigation and maintenance of the research vessel</p>	<p><u>Inputs</u></p> <p><u>Japanese side</u></p> <p>1) Short-term experts (75 MM)</p> <ul style="list-style-type: none"> • Vessel Operation and Maintenance / Chief Advisor (25 MM) • Navigation and Fishing Technology (25 MM) • Mechanical Engineering (8 MM) • Scientific Survey Equipment (6 MM) • Acoustic Equipment (6 MM) • Other experts including mapping specialist (5 MM) <p>2) Project equipment</p> <p>3) Training of C/P (in Japan and/or in third-countries)</p> <p>4) Site expenses for project activities</p> <p>Assumptions:</p> <ul style="list-style-type: none"> • Political situation is stabilized in Morocco. 	<ul style="list-style-type: none"> • INRH budget for O&M of research vessels sufficient. • Meteorological condition does not largely change from normal years.
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