

## ANNEXE 8. Calcul des bénéfices et du TRIE / analyse économique

### 8-1. Calcul des bénéfices

#### (1) Stabilisation de volume des captures

Category	Fish	Species	Fish Production (ton)			Unit Price (D/H/kg)		
			Average	Max.	Min.	Average	Max.	Min.
Pelagics		Sardine	536,115	649,930	412,567	1,66	1,73	1,55
		Maquereau	63,244	85,780	40,726	1,60	1,63	1,34
		Anchois	18,665	30,220	9,794	6,10	6,44	5,49
		Chinchard	24,634	31,282	19,715	4,89	5,36	3,63
		Thonides	6,021	8,886	3,449	28,64	37,19	21,87
		Autres	23,089	57,329	9,835	5,25	5,98	3,58
		Loup	132	181	75	63,48	71,35	48,77
		Dorade	1,264	1,433	1,045	32,70	40,89	25,36
		Grondin	2,444	3,254	1,333	9,06	10,73	7,75
		Merlu	4,042	4,970	3,238	26,87	31,39	22,56
Demersal		Ombrière	2,822	3,589	1,817	22,03	24,26	19,67
		Pagot	2,298	5,067	510	41,65	66,90	14,60
		Sole	3,531	4,107	3,223	28,35	30,41	27,20
		Autres	62,361	67,631	55,228	11,89	13,51	10,46
		Poulpe	20,207	27,813	12,639	68,09	86,95	43,22
		Calmar	2,083	3,900	480	66,68	97,92	47,18
		Seiche	13,935	19,089	10,910	33,89	44,00	21,43
		Poisson blanc	21,952	25,668	17,528	11,85	13,20	8,00
		Crevettes	4,468	5,763	3,657	125,80	141,91	108,43
		Total		56,633	99,939	31,834	1,49	1,86

Source : DPM

Difference of catch volume between with and without Project

A. Stabilization of fish catch (Scenario-1)

Anticipated Calendar Year		7 2020	8 2021	9 2022	10 2023	11 2024	12 2025	13 2026	14 2027	15 2028	16 2029	17 2030	18 2031	19 2032	20 2033	21 2034	22 2035		
Pelagics	Sardine		11	23	34	46	67	86	86	96	106	106	106	106	106	106	106	106	
	Maquereau		44	88	131	175	253	287	320	354	388	388	388	388	388	388	388	388	388
	Anchois		222	444	667	899	1,273	1,435	1,597	1,759	1,921	1,921	1,921	1,921	1,921	1,921	1,921	1,921	1,921
	Chinchard		165	326	488	651	814	976	1,138	1,301	1,464	1,464	1,464	1,464	1,464	1,464	1,464	1,464	1,464
	Thonides		201	402	603	804	1,005	1,206	1,407	1,608	1,809	1,809	1,809	1,809	1,809	1,809	1,809	1,809	1,809
	Autres		358	715	1,073	1,431	1,789	2,147	2,505	2,863	3,221	3,579	3,579	3,579	3,579	3,579	3,579	3,579	3,579
	Loup		62	123	185	246	307	368	429	490	551	551	551	551	551	551	551	551	551
	Dorade		1,427	2,853	4,280	5,707	7,134	8,561	9,988	10,415	10,842	10,842	10,842	10,842	10,842	10,842	10,842	10,842	10,842
	Grondin		1,514	3,027	4,541	6,054	7,568	9,081	10,595	12,108	13,622	15,135	15,135	15,135	15,135	15,135	15,135	15,135	
	Merlu		321	641	961	1,282	1,603	1,924	2,245	2,566	2,887	3,208	3,208	3,208	3,208	3,208	3,208	3,208	
Demersal	Ombrière		201	402	603	804	1,005	1,206	1,407	1,608	1,809	1,809	1,809	1,809	1,809	1,809	1,809	1,809	
	Pagot		358	715	1,073	1,431	1,789	2,147	2,505	2,863	3,221	3,579	3,579	3,579	3,579	3,579	3,579	3,579	
	Sole		62	123	185	246	307	368	429	490	551	551	551	551	551	551	551	551	
	Autres		1,427	2,853	4,280	5,707	7,134	8,561	9,988	10,415	10,842	10,842	10,842	10,842	10,842	10,842	10,842	10,842	
	Poulpe		1,514	3,027	4,541	6,054	7,568	9,081	10,595	12,108	13,622	15,135	15,135	15,135	15,135	15,135	15,135	15,135	
	Calmar		321	641	961	1,282	1,603	1,924	2,245	2,566	2,887	3,208	3,208	3,208	3,208	3,208	3,208	3,208	
	Seiche		605	1,210	1,815	2,420	3,025	3,630	4,235	4,840	5,445	5,445	5,445	5,445	5,445	5,445	5,445		
	Poisson blanc		885	1,770	2,655	3,540	4,425	5,310	6,195	7,080	7,965	7,965	7,965	7,965	7,965	7,965	7,965		
	Crevettes		162	324	486	648	810	972	1,134	1,296	1,458	1,458	1,458	1,458	1,458	1,458	1,458	1,458	
	Total		0	5,973	11,947	17,920	23,893	30,866	37,839	44,812	51,785	58,758	58,758	58,758	58,758	58,758	58,758	58,758	
Pelagics		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	Demersal	0	5,973	11,947	17,920	23,893	30,866	37,839	44,812	51,785	58,758	58,758	58,758	58,758	58,758	58,758	58,758		
Difference	2023 - 2030																		
	After 2031																		
	2021 - 2022																		

A. Stabilization of fish catch (Scenario-2)		7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22			
Project Year (1st year = 2014)		2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035			
Anticipated Calendar Year																				
Coastal Fishery	Pelagic fish	Sardine																		
		Maquereau																		
		Anchois																		
		Chinchar																		
		Thonides																		
		Autres																		
		Loup	11	23	34	46	57	57	57	57	57	57	57	57	57	57	57	57	57	57
		Dorade	44	88	131	175	219	219	219	219	219	219	219	219	219	219	219	219	219	219
		Gronfin	222	444	667	889	1111	1111	1111	1111	1111	1111	1111	1111	1111	1111	1111	1111	1111	1111
		Merlu	163	326	488	651	814	814	814	814	814	814	814	814	814	814	814	814	814	814
Offshore fishery	Demersal	Ombre	201	402	603	804	1005	1005	1005	1005	1005	1005	1005	1005	1005	1005	1005	1005	1005	
		Pagot	358	715	1073	1430	1788	1788	1788	1788	1788	1788	1788	1788	1788	1788	1788	1788	1788	
		Sole	62	123	185	246	308	308	308	308	308	308	308	308	308	308	308	308	308	
		Autres	1427	2853	4280	5707	7133	7133	7133	7133	7133	7133	7133	7133	7133	7133	7133	7133	7133	
		Poupe	1514	3027	4541	6054	7568	7568	7568	7568	7568	7568	7568	7568	7568	7568	7568	7568	7568	
		Calmar	321	641	962	1282	1603	1603	1603	1603	1603	1603	1603	1603	1603	1603	1603	1603	1603	
		Seiche	605	1210	1815	2420	3025	3025	3025	3025	3025	3025	3025	3025	3025	3025	3025	3025		
		Poisson blanc	885	1770	2655	3540	4424	4424	4424	4424	4424	4424	4424	4424	4424	4424	4424	4424		
		Crevettes	162	324	486	648	811	811	811	811	811	811	811	811	811	811	811	811		
		Difference	Pelagic fish	Total	0	5,973	11,947	17,920	23,893	29,867	29,867	29,867	29,867	29,867	29,867	29,867	29,867	29,867	29,867	29,867
Pelagics	0			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Demersal	0			5,973	11,947	17,920	23,893	29,867	29,867	29,867	29,867	29,867	29,867	29,867	29,867	29,867	29,867	29,867		
Difference		(Ave. catch - Min. catch)																		
Demersal		(Ave. catch - Min. catch)																		
A. Stabilization of fish catch (Scenario-3)																				
Project Year (1st year = 2014)		7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22			
Anticipated Calendar Year		2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035			
Coastal Fishery																				
Coastal Fishery	Pelagic fish	Sardine																		
		Maquereau																		
		Anchois																		
		Chinchar																		
		Thonides																		
		Autres																		
		Loup	11	23	34	46	57	57	57	57	57	57	57	57	57	57	57	57	57	
		Dorade	44	88	131	175	219	219	219	219	219	219	219	219	219	219	219	219	219	
		Gronfin	222	444	667	889	1111	1111	1111	1111	1111	1111	1111	1111	1111	1111	1111	1111	1111	
		Merlu	163	326	488	651	814	814	814	814	814	814	814	814	814	814	814	814	814	
Offshore fishery	Demersal	Ombre	201	402	603	804	1005	1005	1005	1005	1005	1005	1005	1005	1005	1005	1005	1005		
		Pagot	358	715	1073	1430	1788	1788	1788	1788	1788	1788	1788	1788	1788	1788	1788	1788		
		Sole	62	123	185	246	308	308	308	308	308	308	308	308	308	308	308	308		
		Autres	1427	2853	4280	5707	7133	7133	7133	7133	7133	7133	7133	7133	7133	7133	7133	7133		
		Poupe	1514	3027	4541	6054	7568	7568	7568	7568	7568	7568	7568	7568	7568	7568	7568	7568		
		Calmar	321	641	962	1282	1603	1603	1603	1603	1603	1603	1603	1603	1603	1603	1603	1603		
		Seiche	605	1210	1815	2420	3025	3025	3025	3025	3025	3025	3025	3025	3025	3025	3025	3025		
		Poisson blanc	885	1770	2655	3540	4424	4424	4424	4424	4424	4424	4424	4424	4424	4424	4424	4424		
		Crevettes	162	324	486	648	811	811	811	811	811	811	811	811	811	811	811	811		
		Difference	Pelagic fish	Total	0	5,973	11,947	17,920	23,893	29,867	29,867	29,867	29,867	29,867	29,867	29,867	29,867	29,867	29,867	29,867
Pelagics	0			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Demersal	0			5,973	11,947	17,920	23,893	29,867	29,867	29,867	29,867	29,867	29,867	29,867	29,867	29,867	29,867	29,867		
Difference		(Ave. catch - Min. catch)																		
Demersal		(Ave. catch - Min. catch)																		



Project Year (1st year = 2014) Anticipated Calendar Year		(Unit: 1,000 DH)																
		7 2020	8 2021	9 2022	10 2023	11 2024	12 2025	13 2026	14 2027	15 2028	16 2029	17 2030	18 2031	19 2032	20 2033	21 2034	22 2035	
Coastal Fishery	Demersal	Loup	8,380	8,380	8,380	8,380	8,380	8,380	8,380	8,380	8,380	8,380	8,380	8,380	8,380	8,380	8,380	
		Dorade	41,327	41,327	41,327	41,327	41,327	41,327	41,327	41,327	41,327	41,327	41,327	41,327	41,327	41,327	41,327	
		Grondin	22,136	22,136	22,136	22,136	22,136	22,136	22,136	22,136	22,136	22,136	22,136	22,136	22,136	22,136	22,136	
		Merlu	108,620	108,620	108,620	108,620	108,620	108,620	108,620	108,620	108,620	108,620	108,620	108,620	108,620	108,620	108,620	
		Ombre	62,175	62,175	62,175	62,175	62,175	62,175	62,175	62,175	62,175	62,175	62,175	62,175	62,175	62,175	62,175	
		Pagot	95,704	95,704	95,704	95,704	95,704	95,704	95,704	95,704	95,704	95,704	95,704	95,704	95,704	95,704	95,704	
		Sole	100,093	100,093	100,093	100,093	100,093	100,093	100,093	100,093	100,093	100,093	100,093	100,093	100,093	100,093	100,093	
		Autres	741,305	741,305	741,305	741,305	741,305	741,305	741,305	741,305	741,305	741,305	741,305	741,305	741,305	741,305	741,305	
		Poulpe	1,375,916	1,375,916	1,375,916	1,375,916	1,375,916	1,375,916	1,375,916	1,375,916	1,375,916	1,375,916	1,375,916	1,375,916	1,375,916	1,375,916	1,375,916	
		Calmar	138,904	138,904	138,904	138,904	138,904	138,904	138,904	138,904	138,904	138,904	138,904	138,904	138,904	138,904	138,904	
Offshore fishery	Demersal	Seiche	469,441	469,441	469,441	469,441	469,441	469,441	469,441	469,441	469,441	469,441	469,441	469,441	469,441	469,441	469,441	
		Poisson blanc	255,694	255,694	255,694	255,694	255,694	255,694	255,694	255,694	255,694	255,694	255,694	255,694	255,694	255,694	255,694	
		Crevettes	562,018	562,018	562,018	562,018	562,018	562,018	562,018	562,018	562,018	562,018	562,018	562,018	562,018	562,018	562,018	
		Total	3,981,713	3,981,713	3,981,713	3,981,713	3,981,713	3,981,713	3,981,713	3,981,713	3,981,713	3,981,713	3,981,713	3,981,713	3,981,713	3,981,713	3,981,713	
		Demersal	3,981,713	3,981,713	3,981,713	3,981,713	3,981,713	3,981,713	3,981,713	3,981,713	3,981,713	3,981,713	3,981,713	3,981,713	3,981,713	3,981,713	3,981,713	
		Constant																
		Production value:																
		(Ave. catch x Ave. price)																
		<b>Production value without Project</b>																
		<b>A. Stabilization of fish catch (Scenario-1)</b>																
Project Year (1st year = 2014) Anticipated Calendar Year		(Unit: 1,000 DH)																
		7 2020	8 2021	9 2022	10 2023	11 2024	12 2025	13 2026	14 2027	15 2028	16 2029	17 2030	18 2031	19 2032	20 2033	21 2034	22 2035	
Coastal Fishery	Pelagics	Sardine	887,717	887,717	887,717	887,717	887,717	887,717	887,717	887,717	887,717	887,717	887,717	887,717	887,717	887,717	887,717	
		Maquereau	94,901	94,901	94,901	94,901	94,901	94,901	94,901	94,901	94,901	94,901	94,901	94,901	94,901	94,901	94,901	
		Anchois	113,893	113,893	113,893	113,893	113,893	113,893	113,893	113,893	113,893	113,893	113,893	113,893	113,893	113,893	113,893	
		Chinchard	115,513	115,513	115,513	115,513	115,513	115,513	115,513	115,513	115,513	115,513	115,513	115,513	115,513	115,513	115,513	
		Thonides	172,453	172,453	172,453	172,453	172,453	172,453	172,453	172,453	172,453	172,453	172,453	172,453	172,453	172,453	172,453	
		Autres	121,126	121,126	121,126	121,126	121,126	121,126	121,126	121,126	121,126	121,126	121,126	121,126	121,126	121,126	121,126	
		Loup	7,174	7,174	7,174	7,174	7,174	7,174	7,174	7,174	7,174	7,174	7,174	7,174	7,174	7,174	7,174	
		Dorade	41,609	41,609	41,609	41,609	41,609	41,609	41,609	41,609	41,609	41,609	41,609	41,609	41,609	41,609	41,609	
		Grondin	20,569	20,569	20,569	20,569	20,569	20,569	20,569	20,569	20,569	20,569	20,569	20,569	20,569	20,569	20,569	
		Merlu	107,164	107,164	107,164	107,164	107,164	107,164	107,164	107,164	107,164	107,164	107,164	107,164	107,164	107,164	107,164	
Offshore fishery	Demersal	Seiche	58,557	58,557	58,557	58,557	58,557	58,557	58,557	58,557	58,557	58,557	58,557	58,557	58,557	58,557	58,557	
		Pagot	83,387	83,387	83,387	83,387	83,387	83,387	83,387	83,387	83,387	83,387	83,387	83,387	83,387	83,387	83,387	
		Sole	99,677	99,677	99,677	99,677	99,677	99,677	99,677	99,677	99,677	99,677	99,677	99,677	99,677	99,677	99,677	
		Autres	742,276	742,276	742,276	742,276	742,276	742,276	742,276	742,276	742,276	742,276	742,276	742,276	742,276	742,276	742,276	
		Poulpe	1,320,533	1,320,533	1,320,533	1,320,533	1,320,533	1,320,533	1,320,533	1,320,533	1,320,533	1,320,533	1,320,533	1,320,533	1,320,533	1,320,533	1,320,533	
		Calmar	120,523	120,523	120,523	120,523	120,523	120,523	120,523	120,523	120,523	120,523	120,523	120,523	120,523	120,523	120,523	
		Seiche	473,665	473,665	473,665	473,665	473,665	473,665	473,665	473,665	473,665	473,665	473,665	473,665	473,665	473,665	473,665	
		Poisson blanc	250,830	250,830	250,830	250,830	250,830	250,830	250,830	250,830	250,830	250,830	250,830	250,830	250,830	250,830	250,830	
		Crevettes	553,404	553,404	553,404	553,404	553,404	553,404	553,404	553,404	553,404	553,404	553,404	553,404	553,404	553,404	553,404	
		Total	5,671,567	5,671,567	5,671,567	5,671,567	5,671,567	5,671,567	5,671,567	5,671,567	5,671,567	5,671,567	5,671,567	5,671,567	5,671,567	5,671,567	5,671,567	5,671,567
Production value:	Pelagics	1,589,854	1,589,854	1,589,854	1,589,854	1,589,854	1,589,854	1,589,854	1,589,854	1,589,854	1,589,854	1,589,854	1,589,854	1,589,854	1,589,854	1,589,854	1,589,854	
	Demersal	3,877,855	3,877,855	3,877,855	3,877,855	3,877,855	3,877,855	3,877,855	3,877,855	3,877,855	3,877,855	3,877,855	3,877,855	3,877,855	3,877,855	3,877,855	3,877,855	
	After 2031																	
(Ave. catch x Ave. price) + ((Min. catch x Max. price) - (Ave. catch x Ave. price))																		
Production value:																		
(Ave. catch x Ave. price) + ((Min. catch x Max. price) - (Ave. catch x Ave. price))																		



Benefit		A. Stabilization of fish catch (Scenario-1)															
Project Year (1st year = 2014)		Anticipated Calendar Year															
		7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
		2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Coastal Fishery	Pelagics	0	0	0	0	0	0	46,700	70,049	93,399	116,749	116,749	151,717	186,684	221,652	256,620	281,588
		0	0	0	0	0	0	46,700	70,049	93,399	116,749	116,749	151,717	186,684	221,652	256,620	281,588
		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Offshore fishery	Pelagics	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Benefit:		(Production value with project) - (Production value without project)															

Benefit		A. Stabilization of fish catch (Scenario-2)															
Project Year (1st year = 2014)		Anticipated Calendar Year															
		7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
		2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Coastal Fishery	Pelagics	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Offshore fishery	Pelagics	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Benefit:		(Production value with project) - (Production value without project)															

(Unit: 1,000 DH)

Project Year (1st year = 2014) Anticipated Calendar Year		(Unit: 1,000 DH)																	
		7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22		
		2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035		
Coastal Fishery	Demersal	Loup	0	606	1,211	1,817	2,423	3,029	3,029	3,029	3,029	3,029	3,029	3,029	3,029	3,029	3,029	3,029	
		Dorade	0	-282	-563	-845	-1,126	-1,408	-1,408	-1,408	-1,408	-1,408	-1,408	-1,408	-1,408	-1,408	-1,408	-1,408	-1,408
		Grondin	0	1,568	3,135	4,703	6,271	7,838	7,838	7,838	7,838	7,838	7,838	7,838	7,838	7,838	7,838	7,838	7,838
		Merlu	0	1,456	2,911	4,367	5,822	7,278	7,278	7,278	7,278	7,278	7,278	7,278	7,278	7,278	7,278	7,278	7,278
		Ombreine	0	3,619	7,237	10,856	14,475	18,094	18,094	18,094	18,094	18,094	18,094	18,094	18,094	18,094	18,094	18,094	18,094
		Pageot	0	12,317	24,635	36,952	49,270	61,587	61,587	61,587	61,587	61,587	61,587	61,587	61,587	61,587	61,587	61,587	61,587
		Sole	0	416	832	1,248	1,664	2,080	2,080	2,080	2,080	2,080	2,080	2,080	2,080	2,080	2,080	2,080	2,080
		Autres	0	-971	-1,941	-2,912	-3,882	-4,853	-4,853	-4,853	-4,853	-4,853	-4,853	-4,853	-4,853	-4,853	-4,853	-4,853	-4,853
		Poulpe	0	55,383	110,766	166,150	221,533	276,916	276,916	276,916	276,916	276,916	276,916	276,916	276,916	276,916	276,916	276,916	276,916
		Calmar	0	18,381	36,761	55,142	73,523	91,904	91,904	91,904	91,904	91,904	91,904	91,904	91,904	91,904	91,904	91,904	91,904
		Seiche	0	-2,112	-4,223	-6,335	-8,447	-10,559	-10,559	-10,559	-10,559	-10,559	-10,559	-10,559	-10,559	-10,559	-10,559	-10,559	-10,559
		Poisson blanc	0	4,864	9,728	14,592	19,456	24,320	24,320	24,320	24,320	24,320	24,320	24,320	24,320	24,320	24,320	24,320	24,320
Crevettes	0	8,613	17,226	25,839	34,452	43,066	43,066	43,066	43,066	43,066	43,066	43,066	43,066	43,066	43,066	43,066	43,066		
	Total	0	103,858	207,717	311,575	415,433	519,292	519,292	519,292	519,292	519,292	519,292	519,292	519,292	519,292	519,292	519,292		
	Demersal	0	103,858	207,717	311,575	415,433	519,292	519,292	519,292	519,292	519,292	519,292	519,292	519,292	519,292	519,292	519,292		
	(Production value with project) - (Production value without project)																		
Benefit:																			
<b>Project Year (1st year = 2014)</b>																			
<b>Anticipated Calendar Year</b>																			
Scenario-1	With Project	5,571,567	5,571,567	5,571,567	5,571,567	5,571,567	5,571,567	5,571,567	5,571,567	5,571,567	5,571,567	5,571,567	5,571,567	5,571,567	5,571,567	5,571,567	5,571,567		
	Without Project	5,571,567	5,467,709	5,363,851	5,259,992	5,156,134	5,052,276	5,052,276	5,052,276	5,052,276	5,052,276	5,052,276	5,052,276	5,052,276	5,052,276	5,052,276	5,052,276		
	Benefit	0	103,858	207,717	311,575	415,433	519,292	519,292	519,292	519,292	519,292	519,292	519,292	519,292	519,292	519,292	519,292		
Scenario-2	With Project	5,571,567	5,571,567	5,571,567	5,571,567	5,571,567	5,571,567	5,571,567	5,571,567	5,571,567	5,571,567	5,571,567	5,571,567	5,571,567	5,571,567	5,571,567	5,571,567		
	Without Project	5,571,567	5,467,709	5,363,851	5,259,992	5,156,134	5,052,276	5,052,276	5,052,276	5,052,276	5,052,276	5,052,276	5,052,276	5,052,276	5,052,276	5,052,276	5,052,276		
	Benefit	0	103,858	207,717	311,575	415,433	519,292	519,292	519,292	519,292	519,292	519,292	519,292	519,292	519,292	519,292	519,292		
Scenario-3	With Project	3,981,713	3,981,713	3,981,713	3,981,713	3,981,713	3,981,713	3,981,713	3,981,713	3,981,713	3,981,713	3,981,713	3,981,713	3,981,713	3,981,713	3,981,713	3,981,713		
	Without Project	3,981,713	3,877,855	3,773,997	3,670,138	3,566,280	3,462,421	3,462,421	3,462,421	3,462,421	3,462,421	3,462,421	3,462,421	3,462,421	3,462,421	3,462,421	3,462,421		
	Benefit	0	103,858	207,717	311,575	415,433	519,292	519,292	519,292	519,292	519,292	519,292	519,292	519,292	519,292	519,292	519,292		

**(2) Développement des ressources halieutiques en eaux profondes (à titre indicatif)**

B. Exploitation of Deepsea Fisheries Resource

Plan A (up to 1,500 m)		7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
Project Year (1st year = 2014)		2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Production exploitable (ton)		0.0	0.0	0.0	0.0	0.0	68.9	68.9	68.9	68.9	68.9	68.9	68.9	68.9	68.9	68.9	68.9
Expected price(DH/kg)		95.47	95.47	95.47	95.47	95.47	95.47	95.47	95.47	95.47	95.47	95.47	95.47	95.47	95.47	95.47	95.47
Expected benefit (1 000 DH)		0	0	0	0	0	6,577	6,577	6,577	6,577	6,577	6,577	6,577	6,577	6,577	6,577	6,577
Total		0	0	0	0	0	10,641	11,043	11,445	11,846	12,248	12,248	12,248	12,248	12,248	12,248	12,248

Note: After 2023 (Potential Stock (ton) x 50% in 500 - 1,500m) - (Actual average catch)  
 Exploitable production:  
 Expected price: Average price at fishing port during last 5 years

Plan B (up to 1,200 m)		7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
Project Year (1st year = 2014)		2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Production exploitable (ton)		0.0	0.0	0.0	0.0	0.0	33.3	33.3	33.3	33.3	33.3	33.3	33.3	33.3	33.3	33.3	33.3
Expected price(DH/kg)		95.47	95.47	95.47	95.47	95.47	95.47	95.47	95.47	95.47	95.47	95.47	95.47	95.47	95.47	95.47	95.47
Expected benefit (1 000 DH)		0	0	0	0	0	3,177	3,177	3,177	3,177	3,177	3,177	3,177	3,177	3,177	3,177	3,177
Total		0	0	0	0	0	3,909	4,642	5,374	6,107	6,839	6,839	6,839	6,839	6,839	6,839	6,839

Note: After 2023 (Potential Stock (ton) x 50% in 500 - 1,200m) - (Actual average catch)  
 Exploitable production:  
 Expected price: Average price at fishing port during last 5 years

Production during last 5 years (2007-2011)	Production (kg)			Value (DH)			Unit Price (DH/kg)	
	Average	Min.	Max.	Average	Min.	Max.	Average	Min.
Crevette Royal	76,478	19,046	6,090,835	11,117,842	2,102,301	111,38	56.54	4.98
Sable Argenté	564,218	203,242	2,889,171	4,604,152	1,174,190	5.78		

Potential Stock estimated based on results of Spanish research VISCONDI D'EZA 2004-2006

	Estimated Standing Stock (ton)	
	500-800m	800-1,200m
Crevette Royal	40.8	178.7
Sable Noir	0.0	1,361.6



### (3) Valorisation des ressources halieutiques en eaux profondes inexploitées (à titre indicatif)

C. Valorisation of unused deepsea fisheries resource

Plan A (up to 1,500 m)		7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22		
Project Year (1st year = 2014)		2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035		
Anticipated Calendar Year																			
Alpocephalus bairdii (Plan-A)		0	0	0	0	0	1,908	3,816	5,724	7,633	9,541	9,541	9,541	9,541	9,541	9,541	9,541		
Alpocephalus rostratus (Plan-A)		0	0	0	0	0	493	986	1,478	1,970	2,463	2,463	2,463	2,463	2,463	2,463	2,463		
Deania calcea (Plan-A)		0	0	0	0	0	1,681	3,362	5,043	6,723	8,404	8,404	8,404	8,404	8,404	8,404	8,404		
Total		0	0	0	0	0	4,082	8,163	12,245	16,326	20,408	20,408	20,408	20,408	20,408	20,408	20,408		
Average price: 1.52 DH/kg (assumed to be same as average price of sardine during last 5 years)																			
Plan B (up to 1,200 m)		7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22		
Project Year (1st year = 2014)		2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035		
Anticipated Calendar Year																			
Alpocephalus bairdii (Plan-B)		0	0	0	0	0	389	779	1,168	1,557	1,947	1,947	1,947	1,947	1,947	1,947	1,947		
Alpocephalus rostratus (Plan-B)		0	0	0	0	0	160	321	481	642	802	802	802	802	802	802	802		
Deania calcea (Plan-B)		0	0	0	0	0	1,526	3,053	4,579	6,105	7,632	7,632	7,632	7,632	7,632	7,632	7,632		
Total		0	0	0	0	0	2,076	4,152	6,228	8,304	10,380	10,380	10,380	10,380	10,380	10,380	10,380		
Average price: 1.52 DH/kg (assumed to be same as average price of sardine during last 5 years)																			
Potential Stock estimated based on results of Spanish research VISCONDI DEZA 2004-2006																			
Species																			
Estimated Standing Stock (ton)																			
500-800m		0.0	2,561.5	9,992.2	14,500-2,000m	8,132.3													
Alpocephalus bairdii		0.0	2,561.5	9,992.2	14,500-2,000m	8,132.3													
Alpocephalus rostratus		0.0	1,055.2	2,185.1	0.0														
Deania calcea		1,175.4	10,041.8	1,016.5	0.0														
Average price: 1.52 DH/kg (assumed to be same as average price of sardine during last 5 years)																			
Potential Stock estimated based on results of Spanish research VISCONDI DEZA 2004-2006																			
Species																			
Estimated Standing Stock (ton)																			
500-800m		0.0	2,561.5	9,992.2	14,500-2,000m	8,132.3													
Alpocephalus bairdii		0.0	2,561.5	9,992.2	14,500-2,000m	8,132.3													
Alpocephalus rostratus		0.0	1,055.2	2,185.1	0.0														
Deania calcea		1,175.4	10,041.8	1,016.5	0.0														
Average price: 1.52 DH/kg (assumed to be same as average price of sardine during last 5 years)																			

(4) Exploitation planifiée des ateliers de transformation (stabilisation de volume des captures)

Export value											(1,000 DH)	
	2005	2006	2007	2008	2009	2010	Average (2006-2010)	Max. (2006-2010)	Min. (2006-2010)			
Conservé	Sardine	2,328,787	2,699,523	2,506,367	3,096,607	3,173,626	3,302,712	2,955,767	3,302,712	2,506,367		
	Maquereau	335,940	415,349	402,727	387,473	468,318	467,678	428,309	468,318	387,473		
	Thon	54,924	134,588	81,080	35,059	17,213	20,921	57,772	134,588	17,213		
	Autres	2,003	1,681	920	3,209	207,719	207,719	47,294	207,719	920		
	Total	2,721,654	3,251,141	2,991,094	3,522,348	3,682,099	3,999,030	3,489,142	4,113,337	2,911,973		
	Sémi-conservé	Anchois	876,676	903,368	868,365	966,564	1,136,485	1,114,786	997,914	1,136,485	868,365	
		Sardine	14,273	16,297	12,418	10,130	13,385	22,616	14,969	22,616	10,130	
		Others	13,213	42,354	29,986	25,164	5,286	3,697	21,297	42,354	3,697	
		Total	904,162	962,019	910,769	1,001,858	1,155,156	1,141,099	1,034,180	1,201,455	882,192	
		Mollusques	2,931,512	3,095,660	3,519,194	4,322,364	3,280,173	2,903,144	3,424,107	4,322,364	2,903,144	
Congelé	Poisson	374,176	613,541	546,177	787,351	876,396	932,178	751,129	932,178	546,177		
	Crustacés	601,842	700,096	757,989	719,593	671,871	794,820	728,874	794,820	671,871		
	Filet / Chair	31,095	42,854	60,699	47,068	25,730	27,587	40,788	60,699	25,730		
	Total	3,938,625	4,452,151	4,884,059	5,876,376	4,854,170	4,657,729	4,944,897	6,110,061	4,146,922		
	Poisson frais	1,066,766	1,143,133	1,208,380	1,160,246	1,056,246	819,426	1,077,486	1,208,380	819,426		
Frais	Poisson vivant	130,815	140,459	135,335	87,424	33,321	40,356	87,379	140,459	33,321		
	Crustacés	224,323	312,936	453,894	330,043	307,392	628,249	406,503	628,249	307,392		
	Mollusques	137,572	101,134	73,298	96,916	86,827	47,223	81,080	101,134	47,223		
	Filet / Chair	4,476	1,029	202	240	122	622	443	1,029	122		
	Total	1,563,952	1,698,691	1,871,109	1,674,869	1,483,908	1,535,876	1,652,891	2,079,251	1,207,484		
Export volume											(tonnes)	
	2005	2006	2007	2008	2009	2010	Average (2006-2010)	Max. (2006-2010)	Min. (2006-2010)			
Conservé	Sardine	108,001	120,490	102,263	117,881	114,649	164,109	123,878	164,109	102,263		
	Maquereau	9,442	10,583	10,443	10,249	11,436	14,521	11,446	14,521	10,249		
	Thon	1,489	3,488	1,926	664	257	417	1,350	3,488	257		
	Autres	103	30	41	48	1,621	12,038	2,756	12,038	30		
	Total	119,035	134,591	114,673	128,842	127,963	191,085	139,431	194,156	112,799		
	Sémi-conservé	Anchois	13,799	14,174	13,910	14,928	14,605	17,708	15,065	17,708	13,910	
		Sardine	472	521	450	367	461	1,198	599	1,198	367	
		Others	683	2,632	1,703	1,717	130	105	1,257	2,632	105	
		Total	14,954	17,327	16,063	17,012	15,196	19,011	16,922	21,538	14,382	
		Mollusques	59,063	20,480	18,216	19,096	15,787	20,314	18,779	20,480	15,787	
Congelé	Poisson	47,858	88,275	68,728	109,205	119,476	135,354	104,208	135,354	68,728		
	Crustacés	5,332	5,415	6,016	6,122	7,140	7,476	6,434	7,476	5,415		
	Filet / Chair	1,508	1,616	2,593	1,621	1,223	919	1,594	2,593	919		
	Total	113,761	115,786	95,553	136,044	143,626	164,063	131,014	165,903	90,849		
	Poisson frais	27,232	33,540	49,972	27,009	22,894	16,724	30,028	49,972	16,724		
Frais	Poisson vivant	3,683	3,792	4,087	2,282	745	557	2,293	4,087	557		
	Crustacés	4,219	6,070	9,013	5,758	4,181	6,261	6,257	9,013	4,181		
	Mollusques	3,271	2,294	1,570	1,766	2,018	1,058	1,741	2,294	1,058		
	Filet / Chair	1,107	19	2	5	2	14	8	19	2		
	Total	39,512	45,715	64,644	36,820	29,840	24,614	40,327	65,385	22,522		

D. Valorisation borne by stabilization of fish catch

Average Catch (2006-2010)		Average Export (2006-2010)		Added value		Proportion of	
Volume (ton)	Value (1000DH)	Volume (ton)	Value (1000DH)	(1,000 DH)	export volume	to total catch	
Sardine	592,748	124,478	2,970,736	2,008,189	21%		
Maquereau	63,244	11,446	428,309	335,107	18%		
Anchois	18,665	15,065	997,914	883,753	81%		
Mollusques	68,601	2,957,105	20,520	548,081	30%		
Crustacés	9,812	766,119	1,136,377	369,258	129%		

D. Valorisation borne by stabilization of fish catch (Scenario-1)

Project Year (1st year = 2014)	Anticipated Calendar Year	8		9		10		11		12		13		14		15		16		17		18		19		20		21		22			
		2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050		
Sardine	conservé/semi-conservé			32,330	48,585	16,195	80,976	17,289	64,781	80,976	98,556	116,136	133,716	151,296	168,876	17,580	35,160	52,740	70,320	87,900													
Maquereau	conservé			8,645	12,967	5,015	17,289	17,289	21,612	21,612	25,931	30,250	34,568	38,887	43,206	4,319	8,638	12,957	17,276	21,595													
Anchois	semi-conservé			176,620	264,930	22,977	353,240	50,048	441,560	57,015	63,981	63,981	63,981	63,981	63,981	509,353	577,156	644,959	712,761	780,564													
Mollusques	fraîs/congelé	5,829	11,659	17,488	23,317	29,147	36,280	43,081	50,487	57,891	63,981	63,981	63,981	63,981	63,981	63,981	63,981	63,981	63,981	63,981													
Crustacés	fraîs/congelé	7,890	15,781	23,671	31,561	39,451	47,341	55,231	63,121	71,011	78,901	86,791	94,681	102,571	110,461	118,351	126,241	134,131	142,021	149,911													
Total		13,720	27,439	53,768	80,097	106,426	143,578	180,729	217,880	255,031	292,182	329,333	366,484	403,635	440,786	477,937	515,088	552,239	589,390	626,541													
Pelagics		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0													
Demersal		13,720	27,439	53,768	80,097	106,426	143,578	180,729	217,880	255,031	292,182	329,333	366,484	403,635	440,786	477,937	515,088	552,239	589,390	626,541													

D. Valorisation borne by stabilization of fish catch (Scenario-2)

Project Year (1st year = 2014)	Anticipated Calendar Year	8		9		10		11		12		13		14		15		16		17		18		19		20		21		22			
		2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050		
Sardine	conservé/semi-conservé																																
Maquereau	conservé																																
Anchois	semi-conservé																																
Mollusques	fraîs/congelé	5,829	11,659	17,488	23,317	29,147	36,280	43,081	50,487	57,891	63,981	63,981	63,981	63,981	63,981	63,981	63,981	63,981	63,981	63,981													
Crustacés	fraîs/congelé	7,890	15,781	23,671	31,561	39,451	47,341	55,231	63,121	71,011	78,901	86,791	94,681	102,571	110,461	118,351	126,241	134,131	142,021	149,911													
Total		13,720	27,439	41,159	54,878	68,598	82,317	96,036	109,755	123,474	137,193	150,912	164,631	178,350	192,069	205,788	219,507	233,226	246,945	260,664													
Pelagics		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0													
Demersal		13,720	27,439	41,159	54,878	68,598	82,317	96,036	109,755	123,474	137,193	150,912	164,631	178,350	192,069	205,788	219,507	233,226	246,945	260,664													

D. Valorisation borne by stabilization of fish catch (Scenario-3)

Project Year (1st year = 2014)	Anticipated Calendar Year	8		9		10		11		12		13		14		15		16		17		18		19		20		21		22			
		2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050		
Sardine	conservé/semi-conservé																																
Maquereau	conservé																																
Anchois	semi-conservé																																
Mollusques	fraîs/congelé	5,829	11,659	17,488	23,317	29,147	36,280	43,081	50,487	57,891	63,981	63,981	63,981	63,981	63,981	63,981	63,981	63,981	63,981	63,981													
Crustacés	fraîs/congelé	7,890	15,781	23,671	31,561	39,451	47,341	55,231	63,121	71,011	78,901	86,791	94,681	102,571	110,461	118,351	126,241	134,131	142,021	149,911													
Total		13,720	27,439	41,159	54,878	68,598	82,317	96,036	109,755	123,474	137,193	150,912	164,631	178,350	192,069	205,788	219,507	233,226	246,945	260,664													
Pelagics		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0													
Demersal		13,720	27,439	41,159	54,878	68,598	82,317	96,036	109,755	123,474	137,193	150,912	164,631	178,350	192,069	205,788	219,507	233,226	246,945	260,664													





SOMARC-2 (Meridian fish catch at the average of last 5 year production)

Project Year	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	26	27	28	29	30	(1,000 DM)											
Investment	1,536	25,311	3,619	186,987	371,360	204,145																																				
GSM (new vessel)																																										
GSM (AMA)																																										
GSM (CAU)																																										
Total	1,536	25,311	3,619	186,987	371,360	204,145																																				
Stabilization of fish catch																																										
Deplete fisheries resource																																										
Benefit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Balance (Benefit - Cost)	-1,536	-25,311	-3,619	-186,987	-371,360	-204,145																																				
<p style="text-align: right;"><b>EBRR = 25.2%</b></p>																																										

Project Year	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	26	27	28	29	30	(1,000 DM)											
Investment	1,536	25,311	3,619	159,074	314,361	174,386																																				
GSM (new vessel)																																										
GSM (AMA)																																										
GSM (CAU)																																										
Total	1,536	25,311	3,619	159,074	314,361	174,386																																				
Stabilization of fish catch																																										
Deplete fisheries resource																																										
Benefit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Balance (Benefit - Cost)	-1,536	-25,311	-3,619	-159,074	-314,361	-174,386																																				
<p style="text-align: right;"><b>EBRR = 21.3%</b></p>																																										

SOMARC-3 (Meridian fish catch at average of last 5 year production only for demersal fishes)

Project Year	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	26	27	28	29	30	(1,000 DM)											
Investment	1,536	25,311	3,619	186,987	371,360	204,145																																				
GSM (new vessel)																																										
GSM (AMA)																																										
GSM (CAU)																																										
Total	1,536	25,311	3,619	186,987	371,360	204,145																																				
Stabilization of fish catch																																										
Deplete fisheries resource																																										
Benefit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Balance (Benefit - Cost)	-1,536	-25,311	-3,619	-186,987	-371,360	-204,145																																				
<p style="text-align: right;"><b>EBRR = 20.8%</b></p>																																										

Project Year	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	26	27	28	29	30	(1,000 DM)										
Investment	1,536	25,311	3,619	159,074	314,361	174,386																																			
GSM (new vessel)																																									
GSM (AMA)																																									
GSM (CAU)																																									
Total	1,536	25,311	3,619	159,074	314,361	174,386																																			
Stabilization of fish catch																																									
Deplete fisheries resource																																									
Benefit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Balance (Benefit - Cost)	-1,536	-25,311	-3,619	-159,074	-314,361	-174,386																																			
<p style="text-align: right;"><b>EBRR = 20.0%</b></p>																																									

Exchanger rate:

1 DM = 8.8 Yen

1 US\$ = 78.17 Yen

### 8-3. Analyse des sensibilités

#### (1) Cas de hausse des prix de carburants de 100%

##### a) Cas de STEP

SCENARIO-1 (Increase of fish catch to the highest level of the last 5 year production)

Project Year	PLAN A												PLAN B																		
	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	26	27	28	29	30	
Investment																															
OSM (new vessel)																															
Cost																															
OSM (AMA)																															
OSM (CAU)																															
Total																															
Stabilization of fish catch																															
Decrease fisheries resource																															
Benefit																															
Balance (Benefit - Cost)																															
EIRR =		26.9%																													

SCENARIO-2 (Maintain fish catch at the average of last 5 year production)

Project Year	PLAN A												PLAN B																		
	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	26	27	28	29	30	
Investment																															
OSM (new vessel)																															
Cost																															
OSM (AMA)																															
OSM (CAU)																															
Total																															
Stabilization of fish catch																															
Decrease fisheries resource																															
Benefit																															
Balance (Benefit - Cost)																															
EIRR =		26.2%																													

SCENARIO-3 (Increase of fish catch to the highest level of the last 5 year production)

Project Year	PLAN A												PLAN B																		
	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	26	27	28	29	30	
Investment																															
OSM (new vessel)																															
Cost																															
OSM (AMA)																															
OSM (CAU)																															
Total																															
Stabilization of fish catch																															
Decrease fisheries resource																															
Benefit																															
Balance (Benefit - Cost)																															
EIRR =		27.9%																													

(SCNARC-3) Maintain fish catch at average of last 5 year production only for demersal fishes)

Table with columns for Project Year (1-30) and rows for Investment, Cost (OSM (new vessel), OSM (CAI)), Benefit (Stabilization of fish catch, Decrease fisheries resource), and Balance (Benefit - Cost). Includes an ERR = 24.1% summary row.

Exchange rate: 100 Yen = 8.6 DH, 1 US\$ = 79.17 Yen

b) Cas de Non-lié

(SCNARC-1) Increase of fish catch to the highest level of the last 5 year production)

Table with columns for Project Year (1-30) and rows for Investment, Cost (OSM (new vessel), OSM (CAI)), Benefit (Stabilization of fish catch, Decrease fisheries resource), and Balance (Benefit - Cost). Includes an ERR = 25.7% summary row.

Exchange rate: 100 Yen = 8.6 DH, 1 US\$ = 79.17 Yen



SONMARC-2 (Maintain fish catch at the average of last 5 year production)

Project Year	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	26	27	28	29	30			
<b>PLAN A</b>																																	
<b>Investment</b>	1,536	25,311	3,619	186,987	371,360	204,145	27,641	30,419	30,524	30,529	34,144	30,858	30,745	30,850	30,755	34,270	30,665	30,870	30,875	30,880	34,296	30,881	30,886	30,891	30,896	34,421	30,916	30,921	30,926	30,932			
<b>OSM (new vessel)</b>																																	
<b>OSM (AMA)</b>																																	
<b>OSM (CAU)</b>																																	
<b>Total</b>	1,536	25,311	3,619	186,987	371,360	204,145	27,641	30,419	30,524	30,529	34,144	30,858	30,745	30,850	30,755	34,270	30,665	30,870	30,875	30,880	34,296	30,881	30,886	30,891	30,896	34,421	30,916	30,921	30,926	30,932			
<b>Stabilization of fish catch</b>																																	
<b>Decrease fisheries resource</b>																																	
<b>Benefit</b>	0	0	0	0	0	0	0	0	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>Balance (Benefit - Cost)</b>	-1,536	-25,311	-3,619	-186,987	-371,360	-204,145	27,641	30,419	30,524	30,529	34,144	30,858	30,745	30,850	30,755	34,270	30,665	30,870	30,875	30,880	34,296	30,881	30,886	30,891	30,896	34,421	30,916	30,921	30,926	30,932			
<b>EBRR =</b>	<b>24.9%</b>																																

EBRR = 24.9%

Project Year	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	26	27	28	29	30				
<b>PLAN B</b>																																		
<b>Investment</b>	1,536	25,311	3,619	150,074	314,361	174,366	23,208	25,464	25,566	25,568	28,253	25,771	25,673	25,775	25,677	28,362	25,782	25,786	25,788	28,371	25,789	25,789	25,791	25,793	25,795	28,379	25,798	25,800	25,802	25,804				
<b>OSM (new vessel)</b>																																		
<b>OSM (AMA)</b>																																		
<b>OSM (CAU)</b>																																		
<b>Total</b>	1,536	25,311	3,619	150,074	314,361	174,366	23,208	25,464	25,566	25,568	28,253	25,771	25,673	25,775	25,677	28,362	25,782	25,786	25,788	28,371	25,789	25,789	25,791	25,793	25,795	28,379	25,798	25,800	25,802	25,804				
<b>Stabilization of fish catch</b>																																		
<b>Decrease fisheries resource</b>																																		
<b>Benefit</b>	0	0	0	0	0	0	0	0	0	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>Balance (Benefit - Cost)</b>	-1,536	-25,311	-3,619	-150,074	-314,361	-174,366	23,208	25,464	25,566	25,568	28,253	25,771	25,673	25,775	25,677	28,362	25,782	25,786	25,788	28,371	25,789	25,789	25,791	25,793	25,795	28,379	25,798	25,800	25,802	25,804				
<b>EBRR =</b>	<b>26.8%</b>																																	

EBRR = 26.8%

SONMARC-3 (Maintain fish catch at average of last 5 year production only for demersal fishes)

Project Year	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	26	27	28	29	30				
<b>PLAN A</b>																																		
<b>Investment</b>	1,536	25,311	3,619	186,987	371,360	204,145	27,641	30,419	30,524	30,529	34,144	30,858	30,745	30,850	30,755	34,270	30,665	30,870	30,875	30,880	34,296	30,881	30,886	30,891	30,896	34,421	30,916	30,921	30,926	30,932				
<b>OSM (new vessel)</b>																																		
<b>OSM (AMA)</b>																																		
<b>OSM (CAU)</b>																																		
<b>Total</b>	1,536	25,311	3,619	186,987	371,360	204,145	27,641	30,419	30,524	30,529	34,144	30,858	30,745	30,850	30,755	34,270	30,665	30,870	30,875	30,880	34,296	30,881	30,886	30,891	30,896	34,421	30,916	30,921	30,926	30,932				
<b>Stabilization of fish catch</b>																																		
<b>Decrease fisheries resource</b>																																		
<b>Benefit</b>	0	0	0	0	0	0	0	0	0	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>Balance (Benefit - Cost)</b>	-1,536	-25,311	-3,619	-186,987	-371,360	-204,145	27,641	30,419	30,524	30,529	34,144	30,858	30,745	30,850	30,755	34,270	30,665	30,870	30,875	30,880	34,296	30,881	30,886	30,891	30,896	34,421	30,916	30,921	30,926	30,932				
<b>EBRR =</b>	<b>22.9%</b>																																	

EBRR = 22.9%

Project Year	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	26	27	28	29	30				
<b>PLAN B</b>																																		
<b>Investment</b>	1,536	25,311	3,619	150,074	314,361	174,366	23,208	25,464	25,566	25,568	28,253	25,771	25,673	25,775	25,677	28,362	25,782	25,786	25,788	28,371	25,789	25,789	25,791	25,793	25,795	28,379	25,798	25,800	25,802	25,804				
<b>OSM (new vessel)</b>																																		
<b>OSM (AMA)</b>																																		
<b>OSM (CAU)</b>																																		
<b>Total</b>	1,536	25,311	3,619	150,074	314,361	174,366	23,208	25,464	25,566	25,568	28,253	25,771	25,673	25,775	25,677	28,362	25,782	25,786	25,788	28,371	25,789	25,789	25,791	25,793	25,795	28,379	25,798	25,800	25,802	25,804				
<b>Stabilization of fish catch</b>																																		
<b>Decrease fisheries resource</b>																																		
<b>Benefit</b>	0	0	0	0	0	0	0	0	0	0	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>Balance (Benefit - Cost)</b>	-1,536	-25,311	-3,619	-150,074	-314,361	-174,366	23,208	25,464	25,566	25,568	28,253	25,771	25,673	25,775	25,677	28,362	25,782	25,786	25,788	28,371	25,789	25,789	25,791	25,793	25,795	28,379	25,798	25,800	25,802	25,804				
<b>EBRR =</b>	<b>25.2%</b>																																	

EBRR = 25.2%

Exchange rate:  
100 Yen = 8.0 DH  
1 US\$ = 78.17 Yen

(2) Cas de baisse des bénéfices (bénéfices obtenus uniquement par les poulpes, les crevettes et les petits pélagiques)

a) Cas de STEP

SCENARIO-1 (Increase of fish catch to the highest level of the last 5 year production)

Project Year	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	26	27	28	29	30			
<b>PLAN A</b>																																	
<b>Investment:</b>																																	
OSM (new vessel)	389	8,348	189,244	187,773	402,888																												
OSM (AMA)																																	
OSM (CAI)																																	
<b>Total</b>	<b>389</b>	<b>8,348</b>	<b>189,244</b>	<b>187,773</b>	<b>402,888</b>																												
<b>Stabilization of fish catch:</b>																																	
Decrease fisheries resource	0	0	0	0	0	0	0	0	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>Benefit:</b>																																	
Balances (Benefit - Cost)	-389	-8,348	-189,244	-187,773	-402,888																												
<b>ERR =</b>	<b>21.3%</b>																																

Project Year	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	26	27	28	29	30				
<b>PLAN B</b>																																		
<b>Investment:</b>																																		
OSM (new vessel)	389	8,348	158,451	159,396	343,971																													
OSM (AMA)																																		
OSM (CAI)																																		
<b>Total</b>	<b>389</b>	<b>8,348</b>	<b>158,451</b>	<b>159,396</b>	<b>343,971</b>																													
<b>Stabilization of fish catch:</b>																																		
Decrease fisheries resource	0	0	0	0	0	0	0	0	0	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>Benefit:</b>																																		
Balances (Benefit - Cost)	-389	-8,348	-158,451	-159,396	-343,971																													
<b>ERR =</b>	<b>23.3%</b>																																	

SCENARIO-2 (Maintain fish catch at the average of last 5 year production)

Project Year	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	26	27	28	29	30				
<b>PLAN A</b>																																		
<b>Investment:</b>																																		
OSM (new vessel)	389	8,348	189,244	187,773	402,888																													
OSM (AMA)																																		
OSM (CAI)																																		
<b>Total</b>	<b>389</b>	<b>8,348</b>	<b>189,244</b>	<b>187,773</b>	<b>402,888</b>																													
<b>Stabilization of fish catch:</b>																																		
Decrease fisheries resource	0	0	0	0	0	0	0	0	0	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>Benefit:</b>																																		
Balances (Benefit - Cost)	-389	-8,348	-189,244	-187,773	-402,888																													
<b>ERR =</b>	<b>19.5%</b>																																	

Project Year	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	26	27	28	29	30				
<b>PLAN B</b>																																		
<b>Investment:</b>																																		
OSM (new vessel)	389	8,348	158,451	159,396	343,971																													
OSM (AMA)																																		
OSM (CAI)																																		
<b>Total</b>	<b>389</b>	<b>8,348</b>	<b>158,451</b>	<b>159,396</b>	<b>343,971</b>																													
<b>Stabilization of fish catch:</b>																																		
Decrease fisheries resource	0	0	0	0	0	0	0	0	0	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>Benefit:</b>																																		
Balances (Benefit - Cost)	-389	-8,348	-158,451	-159,396	-343,971																													
<b>ERR =</b>	<b>21.4%</b>																																	



SONMARC-2 (Merindit fish catch at the average of last 5 year production)

Project Year	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	26	27	28	29	30	(1,000 DM)				
Investment	1,536	-25,311	3,619	186,987	371,360	204,145																													
OSM (new vessel)																																			
OSM (AMA)																																			
OSM (CAU)																																			
Total	1,536	-25,311	3,619	186,987	371,360	224,475	39,436	33,917	33,933	34,698	37,406	34,168	33,774	34,618	35,039	37,150	34,746	34,194	21,247	21,252	24,482	21,262	21,298	21,273	21,278	24,509	21,288	21,283	21,298	21,288	21,298	21,303	0		
Stabilization of fish catch																																			
Decrease fisheries resource																																			
Benefit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Balance (Benefit - Cost)	-1,536	-25,311	-3,619	-186,987	-371,360	-224,475	-39,436	-33,917	-33,933	-34,698	-37,406	-34,168	-33,774	-34,618	-35,039	-37,150	-34,746	-34,194	-21,247	-21,252	-24,482	-21,262	-21,298	-21,273	-21,278	-24,509	-21,288	-21,283	-21,298	-21,288	-21,298	-21,303	0		
EBRR =																																			

EBRR = -18.7%

Project Year	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	26	27	28	29	30	(1,000 DM)					
Investment	1,536	-25,311	3,619	150,074	314,361	174,386																														
OSM (new vessel)																																				
OSM (AMA)																																				
OSM (CAU)																																				
Total	1,536	-25,311	3,619	150,074	314,361	186,696	36,881	30,741	30,759	31,515	33,292	30,898	30,481	31,322	31,740	33,020	31,440	30,884	17,854	17,854	20,336	17,840	17,841	17,843	17,845	20,345	17,846	17,850	17,852	17,854	17,854	17,854	17,854	0		
Stabilization of fish catch																																				
Decrease fisheries resource																																				
Benefit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Balance (Benefit - Cost)	-1,536	-25,311	-3,619	-150,074	-314,361	-186,696	-36,881	-30,741	-30,759	-31,515	-33,292	-30,898	-30,481	-31,322	-31,740	-33,020	-31,440	-30,884	-17,854	-17,854	-20,336	-17,840	-17,841	-17,843	-17,845	-20,345	-17,846	-17,850	-17,852	-17,854	-17,854	-17,854	-17,854	0		
EBRR =																																				

EBRR = -20.4%

SONMARC-3 (Merindit fish catch at average of last 5 year production only for demersal fishes)

Project Year	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	26	27	28	29	30	(1,000 DM)					
Investment	1,536	-25,311	3,619	186,987	371,360	204,145																														
OSM (new vessel)																																				
OSM (AMA)																																				
OSM (CAU)																																				
Total	1,536	-25,311	3,619	186,987	371,360	228,475	39,436	39,917	39,933	34,698	37,406	34,168	33,774	34,618	35,039	37,150	34,746	34,194	21,247	21,252	24,482	21,262	21,298	21,273	21,278	24,509	21,288	21,283	21,298	21,288	21,298	21,303	0			
Stabilization of fish catch																																				
Decrease fisheries resource																																				
Benefit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Balance (Benefit - Cost)	-1,536	-25,311	-3,619	-186,987	-371,360	-228,475	-39,436	-39,917	-39,933	-34,698	-37,406	-34,168	-33,774	-34,618	-35,039	-37,150	-34,746	-34,194	-21,247	-21,252	-24,482	-21,262	-21,298	-21,273	-21,278	-24,509	-21,288	-21,283	-21,298	-21,288	-21,298	-21,303	0			
EBRR =																																				

EBRR = -16.9%

Project Year	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	26	27	28	29	30	(1,000 DM)					
Investment	1,536	-25,311	3,619	150,074	314,361	174,386																														
OSM (new vessel)																																				
OSM (AMA)																																				
OSM (CAU)																																				
Total	1,536	-25,311	3,619	150,074	314,361	186,696	36,881	30,741	30,759	31,515	33,292	30,898	30,481	31,322	31,740	33,020	31,440	30,884	17,854	17,854	20,336	17,840	17,841	17,843	17,845	20,345	17,846	17,850	17,852	17,854	17,854	17,854	17,854	0		
Stabilization of fish catch																																				
Decrease fisheries resource																																				
Benefit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Balance (Benefit - Cost)	-1,536	-25,311	-3,619	-150,074	-314,361	-186,696	-36,881	-30,741	-30,759	-31,515	-33,292	-30,898	-30,481	-31,322	-31,740	-33,020	-31,440	-30,884	-17,854	-17,854	-20,336	-17,840	-17,841	-17,843	-17,845	-20,345	-17,846	-17,850	-17,852	-17,854	-17,854	-17,854	-17,854	0		
EBRR =																																				

EBRR = -18.8%

Exchanger rate:  
100 Yen = 8.0 DM  
1 US\$ = 78.17 Yen



SONARDO-3 (Mainland fish catch at average of last 5 year production only for demersal fishes)

Project Year	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	26	27	28	29	30			
<b>PLAN A</b>																																	
<b>Investment</b>	389	5,348	185,244	187,773	402,586																												
OSM (new vessel)	27,641	30,419	30,524	34,144	30,538	36,745	30,755	34,270	30,855	30,870	30,875	30,880	34,286	30,891	30,895	30,901	30,910	34,321	30,916	30,921	30,926	30,932	30,937	30,942	34,326	30,947	30,952	30,957	34,331	30,962	30,967		
OSM (AMA)	18,111	16,949	17,066	17,316	18,261	17,352	17,255	17,678	17,678	18,072	17,788	17,788	18,072	17,788	17,788	18,072	17,788	17,788	18,072	17,788	17,788	18,072	17,788	17,788	18,072	17,788	17,788	18,072	17,788	17,788	18,072		
OSM (CAI)	13,317	11,455	0	0	0	0	0	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>Total</b>	59,069	58,383	57,590	51,460	48,845	48,145	51,147	48,938	48,145	51,147	48,938	48,145	51,147	48,938	48,145	51,147	48,938	48,145	51,147	48,938	48,145	51,147	48,938	48,145	51,147	48,938	48,145	51,147	48,938	48,145	51,147		
<b>Stabilization of fish catch</b>	0	0	0	0	0	0	0	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>Decrease fisheries resource</b>	0	0	0	0	0	0	0	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>Benefit</b>	0	0	0	0	0	0	0	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>Balance (Benefit - Cost)</b>	-389	-5,348	-185,244	-187,773	-402,586																												
<b>ERR =</b>	16.6%																																
<b>PLAN B</b>																																	
<b>Investment</b>	389	5,348	185,451	159,371	343,571																												
OSM (new vessel)	23,308	25,864	25,864	25,864	28,253	25,771	25,673	25,771	25,673	28,253	25,673	25,673	28,253	25,673	25,673	28,253	25,673	25,673	28,253	25,673	25,673	28,253	25,673	25,673	28,253	25,673	25,673	28,253	25,673	25,673	28,253		
OSM (AMA)	18,111	16,949	17,066	17,316	18,261	17,352	17,255	17,678	17,678	18,072	17,788	17,788	18,072	17,788	17,788	18,072	17,788	17,788	18,072	17,788	17,788	18,072	17,788	17,788	18,072	17,788	17,788	18,072	17,788	17,788	18,072		
OSM (CAI)	13,317	11,455	0	0	0	0	0	0	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>Total</b>	54,736	54,268	42,930	43,180	46,514	43,025	42,928	43,349	43,349	46,325	43,025	42,928	43,349	43,349	46,325	43,025	42,928	43,349	43,349	46,325	43,025	42,928	43,349	43,349	46,325	43,025	42,928	43,349	43,349	46,325	43,025	42,928	
<b>Stabilization of fish catch</b>	0	0	0	0	0	0	0	0	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>Decrease fisheries resource</b>	0	0	0	0	0	0	0	0	0	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>Benefit</b>	0	0	0	0	0	0	0	0	0	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>Balance (Benefit - Cost)</b>	-389	-5,348	-185,451	-159,371	-343,571																												
<b>ERR =</b>	18.7%																																
Exchange rate:	100 Yen = 8.6 DH 1 US\$ = 78.17 Yen																																

**b) Cas de non-lié**

SONARDO-1 (Increase of fish catch to the highest level of the last 5 year production)

Project Year	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	26	27	28	29	30			
<b>PLAN A</b>																																	
<b>Investment</b>	1,536	25,311	3,619	186,987	371,380	204,145																											
OSM (new vessel)	27,441	30,419	30,524	34,144	30,538	30,745	30,850	30,755	34,270	30,855	30,870	30,875	30,880	34,296	30,891	30,895	30,901	30,910	34,321	30,916	30,921	30,926	30,932	30,937	30,942	34,326	30,947	30,952	30,957	34,331	30,962	30,967	
OSM (AMA)	18,111	16,949	17,066	17,316	18,261	17,352	17,255	17,678	17,678	18,072	17,788	17,788	18,072	17,788	17,788	18,072	17,788	17,788	18,072	17,788	17,788	18,072	17,788	17,788	18,072	17,788	17,788	18,072	17,788	17,788	18,072		
OSM (CAI)	13,317	11,455	0	0	0	0	0	0	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>Total</b>	59,069	58,383	57,590	51,460	48,845	48,145	51,147	48,938	48,145	51,147	48,938	48,145	51,147	48,938	48,145	51,147	48,938	48,145	51,147	48,938	48,145	51,147	48,938	48,145	51,147	48,938	48,145	51,147	48,938	48,145	51,147		
<b>Stabilization of fish catch</b>	0	0	0	0	0	0	0	0	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>Decrease fisheries resource</b>	0	0	0	0	0	0	0	0	0	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>Benefit</b>	0	0	0	0	0	0	0	0	0	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>Balance (Benefit - Cost)</b>	-1,536	-25,311	-3,619	-186,987	-371,380	-204,145																											
<b>ERR =</b>	19.7%																																
<b>PLAN B</b>																																	
<b>Investment</b>	1,536	25,311	3,619	159,074	314,381	174,366																											
OSM (new vessel)	23,308	25,864	25,864	25,864	28,253	25,771	25,673	25,771	25,673	28,253	25,673	25,673	28,253	25,673	25,673	28,253	25,673	25,673	28,253	25,673	25,673	28,253	25,673	25,673	28,253	25,673	25,673	28,253	25,673	25,673	28,253		
OSM (AMA)	18,111	16,949	17,066	17,316	18,261	17,352	17,255	17,678	17,678	18,072	17,788	17,788	18,072	17,788	17,788	18,072	17,788	17,788	18,072	17,788	17,788	18,072	17,788	17,788	18,072	17,788	17,788	18,072	17,788	17,788	18,072		
OSM (CAI)	13,317	11,455	0	0	0	0	0	0	0	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>Total</b>	54,736	54,268	42,930	43,180	46,514	43,025	42,928	43,349	43,349	46,325	43,025	42,928	43,349	43,349	46,325	43,025	42,928	43,349	43,349	46,325	43,025	42,928	43,349	43,349	46,325	43,025	42,928	43,349	43,349	46,325	43,025	42,928	
<b>Stabilization of fish catch</b>	0	0	0	0	0	0	0	0	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>Decrease fisheries resource</b>	0	0	0	0	0	0	0	0	0	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>Benefit</b>	0	0	0	0	0	0	0	0	0	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>Balance (Benefit - Cost)</b>	-1,536	-25,311	-3,619	-159,074	-314,381	-174,366																											
<b>ERR =</b>	21.5%																																



## 8-4. Analyse des impacts socio-économiques

SOCIO-ECONOMIC IMPACT ANALYSIS												
1. Valeur de production en mille DH												
Espèce de poisson	2006	2007	2008	2009	2010	Moyenne						
Sardine	773,931	712,878	891,454	1,004,466	1,022,041	880,954						
Poulpe	1,505,000	1,099,000	1,998,000	1,202,000	853,000	1,331,400						
Crevette	460,361	530,809	694,603	501,832	606,792	558,379						
2. Valeur d'exportation en mille dollars												
Espèce de poisson	2005	2006	2007	2008	2009	Moyenne						
Sardine	281,081	340,922	332,338	454,343	460,753	373,887						
Poulpe	236,535	252,235	316,749	438,720	304,229	309,294						
Crevette	65,189	78,817	114,163	121,582	113,094	98,569						
3. Navires de pêches opérationnelle												
Type de navires	Nombre de flotte opérationnelle (Unités)					Total tonnage brut (TJB)						
	2008	2009	2010	Moyenne	2008	2009	2010	Moyenne	2008	2009	2010	Moyenne
<b>Pêch côtiers</b>												
Total pêche côtière	1,835	1,840	1,863	1,846	115,919	111,722	112,264	113,302	102,344	102,616	99,852	101,604
Senneur	478	628	625	577	40,850	50,775	49,089	46,905	36,066	46,637	43,662	42,062
(Proportion to total)	26.0%	34.1%	33.5%	31.3%	35.2%	45.4%	43.7%	41.4%				
<b>Pêche hauturière</b>												
Total pêche hauturière	344	339	329	337	140,523	107,275	103,574	117,124	8,535	8,306	7,444	8,095
Cephalopodier	265	260	256	260	119,915	88,030	86,576	98,174	7,283	6,816	6,222	6,785
(Proportion to total)	77.0%	76.7%	77.6%	77.2%	85.3%	82.1%	83.6%	83.6%				
Crevettier	60	60	58	59	12,876	12,876	12,576	12,776	782	997	904	883
(Proportion to total)	17.4%	17.7%	17.6%	17.6%	9.2%	12.0%	12.1%	10.9%				
Note: Nombre de pêcheurs par type de flottes a été estimé par la proportion de total tonnage brut de flotte.												
4. Etablissements de l'industrie de la pêche												
	Exportations en poids (tonnes)			Proportion à total (%)			Nombre d'unités des établissements			Nombre d'employés estimés		
	2009	2010	Moyenne	2009	2010	Moyenne	2009	2010	Moyenne	2009	2010	Moyenne
<b>CONSERVES</b>												
Total	127,963	191,086	159,525				43	43	43		9,971	9,971
Sardine conservé	114,649	164,109	139,379	89.6%	85.9%	87.4%	39	37	38	8,933	8,563	8,748
SEMI-CONSERVES												
Total	15,196	39,011	27,104				33	34	34	8,861		8,861
Sardine sémi-conservé	461	1,198	830	3.0%	3.1%	3.1%	1	1	1	209	272	270
<b>POISSON CONGELE</b>												
Total	209,380	203,779	206,580				191	191	191	6,621	23,875	15,248
Mollusques congelés	81,541	60,030	70,786	38.9%	29.5%	34.3%	74	56	65	2,579	7,033	4,806
Crustacées congelés	7,140	7,476	7,308	3.4%	3.7%	3.5%	7	7	7	226	876	551




## ANNEXE 9. Aperçu du projet STEP de la JICA (à titre indicatif)



Introduction of STEP Advantages  
(STEP: Special Terms for Economic Partnership)

Middle East Division 1  
Middle East and Europe Department  
Japan International Cooperation Agency

Japan International Cooperation Agency



### Overview of STEP

- STEP is an ODA loan scheme with an aim to introduce advanced technologies and know-how of Japanese firms.
- STEP requires internationally competitive bidding process with participation of Japanese firms

Terms	Content
Interest Rate Repayment Period	<ul style="list-style-type: none"> <li>• Interest Rate : 0.2%</li> <li>• Repayment Period : 40years (with grace period of 10 years)</li> <li>• Ref: Under general terms for Morocco, interest rate is 1.4% with repayment period of 25 years (including grace period of 7years)</li> </ul>
Country of Origin of Goods and Services	<ul style="list-style-type: none"> <li>• Not less than 30% of the total amount of contract(s) financed by STEP loan must be accounted for by either (a) goods from Japan and services provided by Japanese firms, or (b) goods from Japan only, according to the nature of project.</li> </ul>
Finance ratio	<ul style="list-style-type: none"> <li>• Up to 100% of the total project cost (eligible portion) can be financed</li> </ul>
Procurement Conditions	<ul style="list-style-type: none"> <li>• Prime contractors must be Japanese firms.</li> <li>• Joint ventures (JVs) with firms incorporated in recipient countries are also allowed to be a prime contractor under the condition that a Japanese firm is the lead partner.</li> <li>• Subcontractors may be from any country</li> </ul>

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## Advantages of STEP

- Advantages of STEP can be summarized as following four points.

1 Low Cost	<ul style="list-style-type: none"> <li>Interest rate : 0.2%               <ul style="list-style-type: none"> <li>&gt; <b>1.2% less interest rate</b> compared to general terms(1.4%)</li> <li>&gt; Can be financed at fixed and lower rate compared to other donors whose loans are mainly <b>EURIBOR or LIBOR based</b></li> </ul> </li> </ul>
2 Faster Schedule	<ul style="list-style-type: none"> <li>Preparation of detailed design and bidding document can be supported by JICA's technical assistance, which <b>can shorten overall schedule</b> <ul style="list-style-type: none"> <li>&gt; Under general terms, selection of consultants who will prepare bidding document will normally require about 1 year after the signature of L/A</li> </ul> </li> </ul>
3 Participation of local firms	<ul style="list-style-type: none"> <li>Though STEP requires 30% of total contract amount to be procured from Japanese firms, other <b>70% of the contract amount can be procured from domestic and foreign firms</b></li> <li>Also, <b>domestic and foreign firms can participate as subcontractors</b> while a Japanese firms needs to be the prime contractor</li> </ul>
4 Grant Portion	<ul style="list-style-type: none"> <li>Cost of preparation of bidding document will be granted from JICA</li> <li>Technical assistance that is related to the project can be funded by JICA</li> </ul>

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## STEP: Case Studies of neighboring countries

- Case Studies of STEPS in neighboring countries are as follows

Project	EGYPT (2012) : Greater Cairo Metro Line No. 4 Project	TUNISIA (2005) : Photovoltaic Rural Electrification and Water Supply Project
Overview/ Background	The Egyptian government has asked Japan to finance the new line of Metro in its capital. With an aim to diversify technology portfolio, Japanese firms were chosen to create the new No.4 line of Cairo Metro. (Previous lines were financed by France) <u>Final approval of STEP was made by Minister of International Cooperation.</u> (Total Yen Loan: 32,717Million)	To install photovoltaic generation equipment, water pumps, and desalination equipment to about 500 households in the rural farming area, and to some 60 water wells located in the southern farming area. <u>The final approval was made by the president at that time.</u> (Total Yen Loan: 1,731Million)
1 Low Cost	• 0.2% ( <b>Reduction of 3,238 Million Yen of Interest cost</b> compared to general terms (1.4%)*)	• 0.4% ( <b>Reduction of 387 Million Yen of Interest cost</b> compared to general terms (1.5%)*)
2 Faster Schedule	• <b>16 months faster schedule</b> (JICA Support for detailed design (D/D))	
3 Participation of Local Firms	• (Procurement has not yet started)	• Basic components were procured locally
4 Grant Portion	<ul style="list-style-type: none"> <li><b>Support for feasibility study</b></li> <li><b>Support for detailed design and for bidding document</b></li> <li>Technical assistance for disaster prevention system</li> </ul>	• Support for Feasibility Study
Impact	• This first introduction of STEP has encouraged Japanese firms to engage in business with Egypt. Now, the second STEP based project is under consideration.	• The first STEP project has paved the way to the second STEP Project "National Television Broadcasting Center Project".

\*Theoretical simulation under assumption that all the disbursements are conducted just before the beginning of the grace period

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## ANNEXE 10. Liste des personnes rencontrées

<b>Ministère de l'Economie et des Finances (MEF)</b>			
Direction du Budget	DB-MEF	Youssef FARHAT	Directeur Adjoint
		Moha BICHA	Chef de Division de l'Asie, de l'Afrique et des Amériques
		Mohamed LAMGHARI	Chef de Service de l'Asie, de l'Afrique et des Amériques
		Abdelouahab BELMADANI	Chef de Service de Dept des Pêches Maritimes
<b>Ministère des Affaires Etrangères (MAE)</b>			
Direction des Affaires Asiatiques et d'Océanie	DAAO	Mohammed MESKAOUNI	Head of Division Far-East, South East Asia and Oceania
		Nawal ARIFI	Chef de Service
<b>Ministères de l'Agriculture et de la Pêche Maritime / DEPARTEMENT DE LA PECHE MARITIME (DPM)</b>			
Direction de la Coopération et des Affaires Juridiques	DCAJ	Abdelouahed BENABBOU	Directeur de la Coopération et des Affaires Juridiques
		Youssef OUATI	Chef Division de la Coopération
		Zahra ROCHDI	Chef de la Division des Affaires Juridiques
		Yassine EL AROUSSI	Chef du Service de la Coopération Bilatérale
		Aomar BOURHIM	Homologue Expert Japonais
Direction des Pêches Maritimes et de l'Aquaculture	DPMA	Atsushi ISHIKAWA	JICA Expert
		Zakia DRIOUECH	Directrice des Pêches Maritimes et de l'Aquaculture
		Ahmed JOUKER	Head of the Division of the Management of Fisheries Agreements
		Taoufik EL KTIRI	Chef de la Division de la Protection des Ressources Halieutiques
		Fatima Zahra HASSOUNI	Chef Service
Institut National de Recherche Halieutique	INRH	Najib CHIADMI	Chef Service
		Mustapha FAIK	Directeur Général
		Souad KIFANI	Secrétaire Générale
		Abdelmalek FARAJ	Chef du Département des Ressources Halieutiques
		Karim HILMI	Chef du Département Océanographique et Aquaculture
		Mounir ITAOUI	Chef du Département d'Appui à la Recherche
		Najib CHAROUKI	Chef de URD Diagnostic et Etat d'Exploitation des Ressources
		Omar ETTAHIRI	Chef de URD Oceanographique
		Ali AFERYAD	Chef Division d'Approvisionnement, Logistique, et Gestion des Navires
		Mohamed AMRANI	Chef Division Administrative, Financière, et Comptable
		Ali BENHRA	Chef de Laboratoire d'Ecotoxicologie
		Abdellatif BOUMAAZ	Chef de Laboratoire Prospection des Ressources Demersales
		Ahmed MAKAOUI	URD
		Driss BENAZZI	Chef Service Gestion des Navires
Centre Regionale de l'INRH Agadir	CR/INRH-Agadir	Hideki TOJO	JICA Expert
		Abdelhak LAHNIN	Chef du Centre
		Hamid CHFIRI	Chef du L.R.H. / INRH Agdir
		Salaheddine EL AYOUBI	Chef du Labo Prospection Ressources Halieutiques
Centre Regional de l'INRH Tanger	CR/INRH-Tanger	Tadanori FUJINO	JICA Expert
		Benyouness ABDELLAOUI	GIS/remote sensing fisheries and oceanography laboratory
Délégation des Pêches Maritimes d'Agadir	DPM Agadir	Mohamed MALOULI	
Délégation des Pêches Maritimes de Tanger	DPM Tanger	Jalila MOUFAQIA	Déléguée des Pêches Maritimes d'Agadir
		Youssef KECHA	Chef Service Pêches Maritimes Tanger
N/R Charif Al Idrissi	CAI	Mohamed KAMEL	Ingénieur Halieutique Principal
		Abdelouahed NMILY	Captain
		Abdelaziz SOUSSI	Chef mecanicien
		Abdelmajid DRIDI	Biologiste
N/R Al Amir Moulay Abdallah	AMA	Saad RACHDI	Technicien Biologiste
		Hassan AMNZIL	Second Captain
Centre Technique / INRH Casablanca	CT INRH Casa	Mohamed AIT HSSAINE	Chef Mecanicien
		Lahmam MADANI	Maitre Ramendeur
		Hassan SEMLALI	Seocnd Capitain
Institut Supérieur des Pêches Maritimes	ISPM	Abdelouahed KHALEKI	Mechanicin Navigant
		Brahim BOUDINAR	Directeur
		Salah GOJGAL	Capitaine (Navire école)
<b>Ministères de l'Equippement et du Transport</b>			
Agence Nationale des Ports	ANP Casa	Said AL HASSANI	Directeur du Departement Développement de la Place Portuaire
		Rachid ELLAIA	Directeur du Dep. Police & Sûreté/Commandant du Port de Casablanca
		Najat HARRARI	
		LAFKIRI	
Agence National des Ports / Direction Régionale	ANP Agadir	Mohamed HASSOU	Directeur
		Abdelaziz LANSARI	Chef de Département Police et Sûreté / Commandant du Port d'Agadir
		Anouar HARRAK	Directeur Régional de l'Atlantique Sud et Directeur du Port d'Agadir
Institut Supérieur des Etudes Maritimes	ISEM	Abdelilah CHMITI	Directeur des Etudes

<b>ONGs</b>			
Chambre des Pêches Maritimes de l'Atlantique-Centre, Agadir	CPMA	Abderrahmane SARROUD	Président
		Youssef KADIMI	Secrétaire Général
		Abdelfattah ZINE	Directeur CPMA
Association des Armateurs de la Pêche Côtière Port de Tanger	AAPC Tanger	Mohamed KHAIRI	Président
Syndicat Professionnel des Armateurs à la Pêche Industrielle d'Agadir	SPAPIA	Mohamed AFERRHAL	Directeur Délégué
Fédération Regional Sud de la Pêche Côtière - Agadir		Mohamed ASID	
Fédération Marocain de la Pêche Côtière - Agadir		Abdelkhahek JIKH	
Pêcheur - El Jadida		Mohammed EL GHAZOUANI	Pêcheur
<b>Sociétés Privées</b>			
Chantiers Ateliers du Maroc	CAM	Ahmed BEGGUAR	Directeur des Affaires Navales
Ateliers & Chanteirs d'Agadir & du Souss	ACAS	Abdellah EL KONNADI	Responsable Activité Maritime
		Mounir KHATIRI	Respoonsable Technique
Chantier Naval Agadir Founty	CNAF	Haddou OUYAHYA	Président Directeur Général (P.D.G)
ISFOMA S.A.R.L Electric Maritime - Télécom	ISFOMA	El Mokhtar OUYAHYA	Service Commercial
		Jamila BENYAHYA	International Service Manager
		Mohammed ADDICHI	Directeur Technico-cmmercial
Société Radio Electronique Maritime	SOREMAR		
<b>Organisation Régionale</b>			
Conférence Ministérielle sur la Coopération Halieutique entre les Etats Africains Riverains de l'Océan Atlantique	COMHAFAT	Hachim EL AYOUBI	Secrétaire Exécutif
		Masaki OIKAWA	Fisheries Expert
<b>Gouvernement Japonais</b>			
Ambassade du Japon au Maroc	EOJ	Tomoya SAITO	Premier Secrétaire
		Satoshi IKOMA	Premier Secrétaire (Coopération, Politique)
		Takeru IIDA	Deuxième Secrétaire
Agence Japonaise de Coopération Internationale	JICA MAROC	Eihiko OBATA	Représentant Résident
		Motoharu WAKABAYASHI	Premier Adjoint au Représentant Résident
		Takemichi KOBAYASHI	Premier Adjoint au Représentant Résident
		Yuko MORIKAWA	Adjointe au Représentant Résident
		Mayumi ANDO NDIAYE	Adjointe au Représentant Résident
		Kimiyo YAMAURA	Chargée de programme de prêts APD
		Siham MALKI	Program Officer







ANNEXE 11. Liste des membres de la mission d'étude

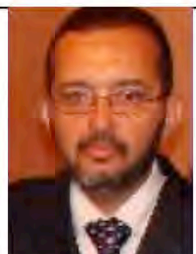


**PREPARATORY SURVEY  
ON  
THE FISHERY RESEARCH VESSEL PROJECT  
IN  
THE KINGDOM OF MOROCCO**



**JICA SURVEY TEAM**

<i>OAFIC</i>		<i>Fishing Boat and System Engineering Association (FBSEA)</i>	
	<i>Mr. Hiroshi FUKAO</i>  <i>Team Leadership / Marine Survey &amp; Navigation Plan / Economic &amp; Financial Analysis</i>		<i>Mr. Yoshiki KONDO</i>  <i>Naval Architecture and Cost Estimation</i>
	<i>Mr. Kazunori UWATOKO</i>  <i>Deputy Team Leadership / Navigation and O&amp;M Plan (2)</i>		<i>Mr. Masaaki SHIBATA</i>  <i>Outfitting Equipment and Cost Estimation</i>
	<i>Mr. Hideyuki WATANABE</i>  <i>Navigation and O&amp;M Plan (1)</i>		<i>Mr. Hideki TSUBATA</i>  <i>Survey Equipment, Fishing Equipment and Cost Estimation</i>

	<i>Mr. Abdelfattah RIACHE</i>  <i>Interpreter / Coordinator</i>
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*Survey Period: August 2012 – March 2013*