

A. Stabilization of fish catch (Scenario-2)		(Unit: 1,000 DH)															
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
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	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	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	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	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	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	121,126
	Loup	8,380	7,774	7,168	6,562	5,957	5,351	5,351	5,351	5,351	5,351	5,351	5,351	5,351	5,351	5,351	5,351
	Dorade	41,327	41,609	41,890	42,172	42,453	42,735	42,735	42,735	42,735	42,735	42,735	42,735	42,735	42,735	42,735	42,735
	Grondin	22,136	20,569	19,001	17,433	15,866	14,298	14,298	14,298	14,298	14,298	14,298	14,298	14,298	14,298	14,298	14,298
	Demersal	108,620	107,164	105,709	104,253	102,798	101,342	101,342	101,342	101,342	101,342	101,342	101,342	101,342	101,342	101,342	101,342
Ombre	62,175	58,557	54,938	51,319	47,700	44,082	44,082	44,082	44,082	44,082	44,082	44,082	44,082	44,082	44,082	44,082	
Pagot	95,704	83,387	71,069	58,752	46,435	34,117	34,117	34,117	34,117	34,117	34,117	34,117	34,117	34,117	34,117	34,117	
Sole	100,093	99,677	99,261	98,845	98,429	98,013	98,013	98,013	98,013	98,013	98,013	98,013	98,013	98,013	98,013	98,013	
Autres	741,305	742,276	743,246	744,217	745,187	746,158	746,158	746,158	746,158	746,158	746,158	746,158	746,158	746,158	746,158	746,158	
Poulpe	1,375,916	1,320,533	1,265,150	1,209,766	1,154,383	1,098,999	1,098,999	1,098,999	1,098,999	1,098,999	1,098,999	1,098,999	1,098,999	1,098,999	1,098,999	1,098,999	
Calmar	469,441	471,553	473,665	475,777	477,888	480,000	480,000	480,000	480,000	480,000	480,000	480,000	480,000	480,000	480,000	480,000	
Seiche	255,694	250,830	245,966	241,102	236,238	231,374	231,374	231,374	231,374	231,374	231,374	231,374	231,374	231,374	231,374	231,374	
Poisson blanc	562,018	553,404	544,791	536,178	527,565	518,952	518,952	518,952	518,952	518,952	518,952	518,952	518,952	518,952	518,952	518,952	
Crevettes	84,250	84,250	84,250	84,250	84,250	84,250	84,250	84,250	84,250	84,250	84,250	84,250	84,250	84,250	84,250	84,250	
Total	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	
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	3,981,713	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	
Production value: Pelagic fish																	
Demersal																	
After 2021																	
A. Stabilization of fish catch (Scenario-3)		(Unit: 1,000 DH)															
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	Loup	8,380	7,774	7,168	6,562	5,957	5,351	5,351	5,351	5,351	5,351	5,351	5,351	5,351	5,351	5,351	5,351
	Dorade	41,327	41,609	41,890	42,172	42,453	42,735	42,735	42,735	42,735	42,735	42,735	42,735	42,735	42,735	42,735	42,735
	Grondin	22,136	20,569	19,001	17,433	15,866	14,298	14,298	14,298	14,298	14,298	14,298	14,298	14,298	14,298	14,298	14,298
	Merlu	108,620	107,164	105,709	104,253	102,798	101,342	101,342	101,342	101,342	101,342	101,342	101,342	101,342	101,342	101,342	101,342
	Ombre	62,175	58,557	54,938	51,319	47,700	44,082	44,082	44,082	44,082	44,082	44,082	44,082	44,082	44,082	44,082	44,082
	Pagot	95,704	83,387	71,069	58,752	46,435	34,117	34,117	34,117	34,117	34,117	34,117	34,117	34,117	34,117	34,117	34,117
	Sole	100,093	99,677	99,261	98,845	98,429	98,013	98,013	98,013	98,013	98,013	98,013	98,013	98,013	98,013	98,013	
	Autres	741,305	742,276	743,246	744,217	745,187	746,158	746,158	746,158	746,158	746,158	746,158	746,158	746,158	746,158	746,158	
	Poulpe	1,375,916	1,320,533	1,265,150	1,209,766	1,154,383	1,098,999	1,098,999	1,098,999	1,098,999	1,098,999	1,098,999	1,098,999	1,098,999	1,098,999	1,098,999	
	Calmar	469,441	471,553	473,665	475,777	477,888	480,000	480,000	480,000	480,000	480,000	480,000	480,000	480,000	480,000	480,000	
Seiche	255,694	250,830	245,966	241,102	236,238	231,374	231,374	231,374	231,374	231,374	231,374	231,374	231,374	231,374	231,374		
Poisson blanc	562,018	553,404	544,791	536,178	527,565	518,952	518,952	518,952	518,952	518,952	518,952	518,952	518,952	518,952	518,952		
Crevettes	84,250	84,250	84,250	84,250	84,250	84,250	84,250	84,250	84,250	84,250	84,250	84,250	84,250	84,250	84,250		
Total	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	
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	3,981,713	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	
Production value: Pelagic fish																	
Demersal																	
After 2021																	

Benefit		A. Stabilization of fish catch (Scenario-1)												A. Stabilization of fish catch (Scenario-2)																						
Project Year (1st year = 2014)		Anticipated Calendar Year												Anticipated Calendar Year																						
		7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	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	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035			
Coastal Fishery	Pelagics																																			
		Sardine	0	0	0	0	0	46,700	70,049	93,399	116,749	116,749	151,717	186,684	221,652	256,620	291,588	0	0	0	0	0	23,350	46,700	70,049	93,399	116,749	116,749	151,717	186,684	221,652	256,620	291,588			
		Maquereau	0	0	0	0	0	4,008	8,016	12,024	16,032	20,040	24,048	28,056	32,064	36,072	40,080	0	0	0	0	0	4,008	8,016	12,024	16,032	20,040	24,048	28,056	32,064	36,072	40,080	44,088			
		Anchois	0	0	0	0	0	10,430	20,859	31,289	41,718	52,148	62,578	72,999	83,419	93,839	104,259	0	0	0	0	0	10,430	20,859	31,289	41,718	52,148	62,578	72,999	83,419	93,839	104,259	114,679			
		Chincharid	0	0	0	0	0	-407	-815	-1,222	-1,630	-2,037	-2,445	-2,852	-3,260	-3,668	-4,076	0	0	0	0	0	-407	-815	-1,222	-1,630	-2,037	-2,445	-2,852	-3,260	-3,668	-4,076	-4,484			
		Thonides	0	0	0	0	0	4,385	8,770	13,155	17,540	21,925	26,310	30,695	35,080	39,465	43,850	0	0	0	0	0	4,385	8,770	13,155	17,540	21,925	26,310	30,695	35,080	39,465	43,850	48,235			
		Autres	0	0	0	0	0	16,844	33,689	67,377	101,066	134,755	168,443	202,132	235,820	269,509	303,197	336,886	0	0	0	0	0	16,844	33,689	67,377	101,066	134,755	168,443	202,132	235,820	269,509	303,197	336,886		
		Loup	0	606	1,211	1,817	2,423	3,029	3,635	4,241	4,847	5,453	6,059	6,665	7,271	7,877	8,483	0	606	1,211	1,817	2,423	3,029	3,635	4,241	4,847	5,453	6,059	6,665	7,271	7,877	8,483	9,089	9,695		
		Dorade	0	-282	-563	-845	-1,126	-1,408	-1,690	-1,972	-2,254	-2,536	-2,818	-3,100	-3,382	-3,664	-3,946	0	-282	-563	-845	-1,126	-1,408	-1,690	-1,972	-2,254	-2,536	-2,818	-3,100	-3,382	-3,664	-3,946	-4,228	-4,510		
		Grondin	0	1,568	3,135	4,703	6,271	7,839	9,407	10,975	12,543	14,111	15,679	17,247	18,815	20,383	21,951	0	1,568	3,135	4,703	6,271	7,839	9,407	10,975	12,543	14,111	15,679	17,247	18,815	20,383	21,951	23,519	25,087		
Demersal		Menu	0	1,456	2,911	4,367	5,822	7,277	8,732	10,187	11,642	13,097	14,552	16,007	17,462	18,917	0	1,456	2,911	4,367	5,822	7,277	8,732	10,187	11,642	13,097	14,552	16,007	17,462	18,917	20,372	21,827	23,282	24,737		
		Ombrine	0	3,619	7,237	10,856	14,475	18,094	21,713	25,332	28,951	32,570	36,189	39,808	43,427	47,046	50,665	0	3,619	7,237	10,856	14,475	18,094	21,713	25,332	28,951	32,570	36,189	39,808	43,427	47,046	50,665	54,284	57,903		
		Pagot	0	12,317	24,635	36,952	49,270	61,587	73,904	86,221	98,538	110,855	123,172	135,489	147,806	160,123	172,440	0	12,317	24,635	36,952	49,270	61,587	73,904	86,221	98,538	110,855	123,172	135,489	147,806	160,123	172,440	184,757	197,074	209,391	
		Sole	0	416	832	1,248	1,664	2,080	2,496	2,912	3,328	3,744	4,160	4,576	4,992	5,408	5,824	0	416	832	1,248	1,664	2,080	2,496	2,912	3,328	3,744	4,160	4,576	4,992	5,408	5,824	6,240	6,656	7,072	
		Autres	0	-971	-1,941	-2,912	-3,882	-4,853	-5,824	-6,795	-7,766	-8,737	-9,708	-10,679	-11,650	-12,621	-13,592	0	-971	-1,941	-2,912	-3,882	-4,853	-5,824	-6,795	-7,766	-8,737	-9,708	-10,679	-11,650	-12,621	-13,592	-14,563	-15,534	-16,505	
		Poulpe	0	55,383	110,766	166,150	221,533	276,916	332,299	387,682	443,065	498,448	553,831	609,214	664,597	720,000	775,383	0	55,383	110,766	166,150	221,533	276,916	332,299	387,682	443,065	498,448	553,831	609,214	664,597	720,000	775,383	830,766	886,150	941,533	
		Calmar	0	18,381	36,761	55,142	73,523	91,904	110,285	128,666	147,047	165,428	183,809	202,190	220,571	238,952	257,333	0	18,381	36,761	55,142	73,523	91,904	110,285	128,666	147,047	165,428	183,809	202,190	220,571	238,952	257,333	275,714	294,095	312,476	330,857
		Seiche	0	-2,112	-4,223	-6,335	-8,447	-10,559	-12,671	-14,783	-16,895	-19,007	-21,119	-23,231	-25,343	-27,455	-29,567	0	-2,112	-4,223	-6,335	-8,447	-10,559	-12,671	-14,783	-16,895	-19,007	-21,119	-23,231	-25,343	-27,455	-29,567	-31,679	-33,791	-35,903	-38,015
		Poisson blanc	0	4,864	9,728	14,592	19,456	24,320	29,184	34,048	38,912	43,776	48,640	53,504	58,368	63,232	68,096	0	4,864	9,728	14,592	19,456	24,320	29,184	34,048	38,912	43,776	48,640	53,504	58,368	63,232	68,096	72,960	77,824	82,688	87,552
		Crevettes	0	8,613	17,226	25,839	34,452	43,065	51,678	60,291	68,904	77,517	86,130	94,743	103,356	111,969	120,582	0	8,613	17,226	25,839	34,452	43,065	51,678	60,291	68,904	77,517	86,130	94,743	103,356	111,969	120,582	129,195	137,808	146,421	155,034
Offshore fishery		Total	0	103,858	207,717	311,575	415,433	519,292	623,149	727,007	830,865	934,723	1,038,581	1,142,439	1,246,297	1,350,155	0	103,858	207,717	311,575	415,433	519,292	623,149	727,007	830,865	934,723	1,038,581	1,142,439	1,246,297	1,350,155	1,454,013	1,557,871	1,661,729	1,765,587	1,869,445	
		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	
		Demersal	0	103,858	207,717	311,575	415,433	519,292	623,149	727,007	830,865	934,723	1,038,581	1,142,439	1,246,297	1,350,155	0	103,858	207,717	311,575	415,433	519,292	623,149	727,007	830,865	934,723	1,038,581	1,142,439	1,246,297	1,350,155	1,454,013	1,557,871	1,661,729	1,765,587	1,869,445	
Benefit:		(Production value with project) - (Production value without project)												(Production value with project) - (Production value without project)																						
Benefit:		A. Stabilization of fish catch (Scenario-1)												A. Stabilization of fish catch (Scenario-2)																						
Project Year (1st year = 2014)		Anticipated Calendar Year												Anticipated Calendar Year																						
		7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	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	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035			
Coastal Fishery	Pelagics																																			
		Sardine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
		Maquereau	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
		Anchois	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		Chincharid	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		Thonides	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		Autres	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		Loup	0	606	1,211	1,817	2,423	3,029	3,635	4,241	4,847	5,453	6,059	6,665	7,271	7,877	8,483	0	606	1,211	1,817	2,423	3,029	3,635	4,241	4,847	5,453	6,059	6,665	7,271	7,877	8,483	9,089	9,695		
		Dorade	0	-282	-563	-845	-1,126	-1,408	-1,690	-1,972	-2,254	-2,536	-2,818	-3,100	-3,382	-3,664	-3,946	0	-282	-563	-845	-1,126	-1,408	-1,690	-1,972	-2,254	-2,536	-2,818	-3,100	-3,382	-3,664	-3,946	-4,228	-4,510		
		Grondin	0	1,568	3,135	4,703	6,271	7,839	9,407	10,975	12,543	14,111	15,679	17,247	18,815	20,383	21,951	0	1,568	3,135	4,703	6,271	7,839	9,407	10,975	12,543	14,111	15,679	17,247	18,815	20,383	21,951	23,519	25,087		
Offshore fishery		Menu	0	1,456	2,911	4,367	5,822	7,277	8,732	10,187	11,642	13,097	14,552	16,007	17,462	18,917	0	1,456	2,911	4,367	5,822	7,277	8,732	10,187	11,642	13,097	14,552	16,007	17,462	18,917	20,372	21,827	23,282	24,737		
		Ombrine	0	3,619	7,237	10,856	14,475	18,094	21,713	25,332	28,951	32,570	36,189	39,808	43,427	47,046	50,665	0	3,619																	

(2) 深海漁業資源の開発(参考)

B. Exploitation of Deepsea Fisheries Resource																					
Plan A (up to 1,500 m)																					
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					
Production exploitable (ton)	Crevette Royal	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	68.9	68.9	68.9	68.9	68.9
	Sable Noir	0.0	0.0	0.0	0.0	755.5	830.2	904.8	979.5	1,054.2	1,054.2	1,054.2	1,054.2	1,054.2	1,054.2	1,054.2	1,054.2	1,054.2	1,054.2	1,054.2	1,054.2
Expected price(DH/kg)	Crevette Royal	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	95.47	95.47	95.47	95.47
	Sable Argentie	5.38	5.38	5.38	5.38	5.38	5.38	5.38	5.38	5.38	5.38	5.38	5.38	5.38	5.38	5.38	5.38	5.38	5.38	5.38	5.38
Expected benefit (1,000 DH)	Crevette Royal	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	6,577	6,577	6,577	6,577	6,577
	Sable Noir	0	0	0	0	4,064	4,466	4,868	5,270	5,672	5,672	5,672	5,672	5,672	5,672	5,672	5,672	5,672	5,672	5,672	5,672
Total		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	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:	Average price at fishing port during last 5 years																				
Expected price:	Average price at fishing port during last 5 years																				
Plan B (up to 1,200 m)																					
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					
Production exploitable (ton)	Crevette Royal	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	33.3	33.3	33.3	33.3	33.3
	Sable Noir	0.0	0.0	0.0	0.0	136.2	272.3	408.5	544.6	680.8	680.8	680.8	680.8	680.8	680.8	680.8	680.8	680.8	680.8	680.8	680.8
Expected price(DH/kg)	Crevette Royal	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	95.47	95.47	95.47	95.47
	Sable Argentie	5.38	5.38	5.38	5.38	5.38	5.38	5.38	5.38	5.38	5.38	5.38	5.38	5.38	5.38	5.38	5.38	5.38	5.38	5.38	5.38
Expected benefit (1,000 DH)	Crevette Royal	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	3,177	3,177	3,177	3,177	3,177
	Sable Noir	0	0	0	0	733	1,465	2,198	2,930	3,663	3,663	3,663	3,663	3,663	3,663	3,663	3,663	3,663	3,663	3,663	3,663
Total		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	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:	Average price at fishing port during last 5 years																				
Expected price:	Average price at fishing port during last 5 years																				
Production during last 5 years (2007-2011)																					
	Production (kg)																				
	Average	Min.	Max.	Average	Min.	Max.	Average	Min.	Max.	Unit Price (DH/kg)											
Crevette Royal	76,478	196,639	19,046	6,090,835	2,102,301	95.47	111.38	56.54	4.98												
Sable Argentie	554,218	925,193	203,242	2,889,171	1,174,190	5.38	5.78	5.78	4.98												
Source: ONP																					
Potential Stock estimated based on results of Spanish research VISCONDI/DIEZA,2004-2006																					
Estimated Standing Stock (ton)																					
500-800m	800-1,200m	1,200-1,500m	1,500-2,000m																		
Crevette Royal	40.8	178.7	71.2	5.6																	
Sable Noir	0.0	1,361.6	746.8	0.0																	

(3) 未利用深海資源の付加価値向上 (参考)

C. Valorisation of unused deepsea fisheries resource		7		8		9		10		11		12		13		14		15		16		17		18		19		20		21		22			
Plan A (up to 1,500 m)		2020		2021		2022		2023		2024		2025		2026		2027		2028		2029		2030		2031		2032		2033		2034		2035			
Project Year (1st year = 2014)																																			
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		985		1,478		1,970		2,463		2,463		2,463		2,463		2,463		2,463		2,463			
Desania calcea (Plan-A)		0		0		0		0		0		1,661		3,322		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)																																			
Project Year (1st year = 2014)																																			
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			
Desania 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																																			
500-800m		800-1,200m		1,200-1,500m		1,500-2,000m																													
Alpocephalus bairdii		0.0		2,561.5		9,992.2		8,132.3																											
Alpocephalus rostratus		0.0		1,055.2		2,185.1		0.0																											
Desania calcea		1,175.4		10,041.8		1,016.5		0.0																											

(4) 水産加工場の計画的操業

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	22,942	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
		Congelé	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
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
Frais			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
	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										
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
		Congelé	Mollusques	59,063	20,480	18,216	19,096	15,787	20,314	18,779	20,480
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
Frais			Poisson frais	27,232	33,540	49,972	27,009	22,894	16,724	30,028	49,972
	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 (1,000 DH)	Proportion of export volume to total catch
	Volume (ton)	Value (1000DH)	Volume (ton)	Value (1000DH)		
Sardine	592,748	962,547	124,478	2,970,736	2,008,189	21%
Maquereau	63,244	93,202	11,446	428,309	335,107	18%
Anchois	18,665	114,161	15,065	997,914	883,753	81%
Mollusques	68,601	2,957,106	20,520	3,505,187	548,081	30%
Crustacés	9,812	766,119	12,690	1,135,377	369,258	129%

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

Project Year (1st year = 2014)	8		9		10		11		12		13		14		15		16		17		18		19		20		21		22			
	Anticipated Calendar Year	2021	2021	2022	2022	2023	2023	2024	2024	2025	2025	2026	2026	2027	2027	2028	2028	2029	2029	2030	2030	2031	2031	2032	2032	2033	2033	2034	2034	2035	2035	
Sardine	conservé/sémi-conservé								16,195	32,390	32,390	32,390	48,586	48,586	64,781	64,781	80,976	80,976	80,976	80,976	96,556	96,556	116,136	116,136	133,716	133,716	151,296	151,296	168,876	168,876		
Maquereau	conservé								5,015	8,645	8,645	12,967	12,967	17,289	17,289	21,612	21,612	21,612	21,612	21,612	25,931	25,931	30,250	30,250	34,568	34,568	38,887	38,887	43,206	43,206		
Anchois	semi-conservé								22,977	17,620	17,620	264,930	264,930	353,240	353,240	441,550	441,550	509,353	509,353	577,156	577,156	633,981	633,981	690,784	690,784	747,587	747,587	804,390	804,390	861,193	861,193	
Mollusques	fruits/congelé								29,147	36,114	36,114	43,081	43,081	50,048	50,048	57,015	57,015	63,981	63,981	63,981	63,981	63,981	63,981	63,981	63,981	63,981	63,981	63,981	63,981	63,981	63,981	63,981
Crustacés	fruits/congelé								77,279	89,888	89,888	102,497	102,497	102,497	102,497	102,497	102,497	102,497	102,497	102,497	102,497	102,497	102,497	102,497	102,497	102,497	102,497	102,497	102,497	102,497	102,497	102,497
Total		13,720	13,720	27,439	27,439	53,768	53,768	80,097	80,097	150,613	150,613	343,657	343,657	472,061	472,061	587,855	587,855	703,650	703,650	710,617	710,617	800,319	800,319	890,020	890,020	979,722	979,722	1,069,424	1,069,424	1,159,126	1,159,126	
Pelagics		0	0	0	0	0	0	0	0	44,188	217,655	217,655	326,483	326,483	435,310	435,310	544,138	544,138	544,138	544,138	544,138	544,138	544,138	544,138	544,138	544,138	544,138	544,138	544,138	544,138	544,138	
Demersal		13,720	13,720	27,439	27,439	53,768	53,768	80,097	80,097	106,426	106,426	126,002	126,002	145,578	145,578	152,545	152,545	159,512	159,512	166,479	166,479	166,479	166,479	166,479	166,479	166,479	166,479	166,479	166,479	166,479	166,479	

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

Project Year (1st year = 2014)	8		9		10		11		12		13		14		15		16		17		18		19		20		21		22			
	Anticipated Calendar Year	2021	2021	2022	2022	2023	2023	2024	2024	2025	2025	2026	2026	2027	2027	2028	2028	2029	2029	2030	2030	2031	2031	2032	2032	2033	2033	2034	2034	2035	2035	
Sardine	conservé/sémi-conservé																															
Maquereau	conservé																															
Anchois	semi-conservé																															
Mollusques	fruits/congelé																															
Crustacés	fruits/congelé																															
Total		13,720	13,720	27,439	27,439	41,159	41,159	54,878	54,878	66,598	66,598	66,598	66,598	66,598	66,598	66,598	66,598	66,598	66,598	66,598	66,598	66,598	66,598	66,598	66,598	66,598	66,598	66,598	66,598	66,598	66,598	66,598
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
Demersal		13,720	13,720	27,439	27,439	41,159	41,159	54,878	54,878	66,598	66,598	66,598	66,598	66,598	66,598	66,598	66,598	66,598	66,598	66,598	66,598	66,598	66,598	66,598	66,598	66,598	66,598	66,598	66,598	66,598	66,598	66,598

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

Project Year (1st year = 2014)	8		9		10		11		12		13		14		15		16		17		18		19		20		21		22				
	Anticipated Calendar Year	2021	2021	2022	2022	2023	2023	2024	2024	2025	2025	2026	2026	2027	2027	2028	2028	2029	2029	2030	2030	2031	2031	2032	2032	2033	2033	2034	2034	2035	2035		
Sardine	conservé/sémi-conservé																																
Maquereau	conservé																																
Anchois	semi-conservé																																
Mollusques	fruits/congelé																																
Crustacés	fruits/congelé																																
Total		13,720	13,720	27,439	27,439	41,159	41,159	54,878	54,878	66,598	66,598	66,598	66,598	66,598	66,598	66,598	66,598	66,598	66,598	66,598	66,598	66,598	66,598	66,598	66,598	66,598	66,598	66,598	66,598	66,598	66,598	66,598	66,598
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
Demersal		13,720	13,720	27,439	27,439	41,159	41,159	54,878	54,878	66,598	66,598	66,598	66,598	66,598	66,598	66,598	66,598	66,598	66,598	66,598	66,598	66,598	66,598	66,598	66,598	66,598	66,598	66,598	66,598	66,598	66,598	66,598	66,598

SONMARC-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				
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	204,145																												
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	
Balance (Benefit - Cost)	-1,536	-25,311	3,619	186,987	371,360	204,145																												
EBRR = 25.2%																																		

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						
Investment	1,536	-25,311	3,619	150,074	314,361	174,366																														
OSM (new vessel)																																				
OSM (AMA)																																				
OSM (CAU)																																				
Total	1,536	-25,311	3,619	150,074	314,361	174,366																														
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	174,366																														
EBRR = 21.3%																																				

SONMARC-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						
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	204,145																														
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	186,987	371,360	204,145																														
EBRR = 26.8%																																				

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						
Investment	1,536	-25,311	3,619	150,074	314,361	174,366																														
OSM (new vessel)																																				
OSM (AMA)																																				
OSM (CAU)																																				
Total	1,536	-25,311	3,619	150,074	314,361	174,366																														
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	174,366																														
EBRR = 26.0%																																				

Exchanger rate:
 1 DM = 8.8 Yen
 1 US\$ = 78.17 Yen

8-3. 感度分析

(1) 燃油価格 100%アップの場合

① ステップの場合

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				
PLAN A																																		
Investment	389	8,348	186,244	187,773	402,888																													
OSM (new vessel)		27,641	30,416	30,824	30,850	30,755	34,144	30,835	30,743	30,850	30,755	34,270	30,885	30,870	30,885	30,870	30,875	30,880	34,296	30,891	30,886	30,891	30,886	34,321	30,916	30,921	30,926	30,932	34,347					
OSM (AMA)		18,111	18,949	17,406	17,316	16,938	17,852	17,255	16,938	17,876	18,376	16,872	17,788	17,231	17,876	17,231	17,876	17,231	17,876	17,231	17,876	17,231	17,876	17,231	17,876	17,231	17,876	17,231	17,876	17,231	17,876	17,231	17,876	
OSM (CAJ)		11,435	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total	389	8,348	186,244	187,773	434,016	50,024	47,825	47,840	46,790	51,497	48,055	47,681	48,525	48,131	51,242	48,653	48,101	30,875	30,880	34,296	30,891	30,886	30,891	30,886	34,321	30,916	30,921	30,926	30,932	34,347				
Stabilization of fish catch		0	103,858	207,717	311,575	415,433	544,111	598,930	593,746	598,930	593,746	598,930	593,746	598,930	593,746	598,930	593,746	598,930	593,746	598,930	593,746	598,930	593,746	598,930	593,746	598,930	593,746	598,930	593,746	598,930	593,746	598,930	593,746	598,930
Depreciate 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	
Total	-389	-8,348	-186,244	-187,773	-434,016	-50,024	-47,825	-47,840	-46,790	-51,497	-48,055	-47,681	-48,525	-48,131	-51,242	-48,653	-48,101	30,875	30,880	34,296	30,891	30,886	30,891	30,886	34,321	30,916	30,921	30,926	30,932	34,347				
Balance (Benefit - Cost)																																		
ERR =																																		

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				
PLAN B																																		
Investment	389	8,348	186,244	187,773	402,888																													
OSM (new vessel)		27,641	30,416	30,824	30,850	30,755	34,144	30,835	30,743	30,850	30,755	34,270	30,885	30,870	30,885	30,870	30,875	30,880	34,296	30,891	30,886	30,891	30,886	34,321	30,916	30,921	30,926	30,932	34,347					
OSM (AMA)		18,111	18,949	17,406	17,316	16,938	17,852	17,255	16,938	17,876	18,376	16,872	17,788	17,231	17,876	17,231	17,876	17,231	17,876	17,231	17,876	17,231	17,876	17,231	17,876	17,231	17,876	17,231	17,876	17,231	17,876	17,231	17,876	
OSM (CAJ)		11,435	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total	389	8,348	186,244	187,773	434,016	50,024	47,825	47,840	46,790	51,497	48,055	47,681	48,525	48,131	51,242	48,653	48,101	30,875	30,880	34,296	30,891	30,886	30,891	30,886	34,321	30,916	30,921	30,926	30,932	34,347				
Stabilization of fish catch		0	103,858	207,717	311,575	415,433	544,111	598,930	593,746	598,930	593,746	598,930	593,746	598,930	593,746	598,930	593,746	598,930	593,746	598,930	593,746	598,930	593,746	598,930	593,746	598,930	593,746	598,930	593,746	598,930	593,746	598,930	593,746	598,930
Depreciate 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	
Total	-389	-8,348	-186,244	-187,773	-434,016	-50,024	-47,825	-47,840	-46,790	-51,497	-48,055	-47,681	-48,525	-48,131	-51,242	-48,653	-48,101	30,875	30,880	34,296	30,891	30,886	30,891	30,886	34,321	30,916	30,921	30,926	30,932	34,347				
Balance (Benefit - Cost)																																		
ERR =																																		

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				
SCENARIO-2 (Maintain fish catch at the average of last 5 year production)																																		
PLAN A																																		
Investment	389	8,348	186,244	187,773	402,888																													
OSM (new vessel)		27,641	30,416	30,824	30,850	30,755	34,144	30,835	30,743	30,850	30,755	34,270	30,885	30,870	30,885	30,870	30,875	30,880	34,296	30,891	30,886	30,891	30,886	34,321	30,916	30,921	30,926	30,932	34,347					
OSM (AMA)		18,111	18,949	17,406	17,316	16,938	17,852	17,255	16,938	17,876	18,376	16,872	17,788	17,231	17,876	17,231	17,876	17,231	17,876	17,231	17,876	17,231	17,876	17,231	17,876	17,231	17,876	17,231	17,876	17,231	17,876	17,231	17,876	
OSM (CAJ)		11,435	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	389	8,348	186,244	187,773	434,016	50,024	47,825	47,840	46,790	51,497	48,055	47,681	48,525	48,131	51,242	48,653	48,101	30,875	30,880	34,296	30,891	30,886	30,891	30,886	34,321	30,916	30,921	30,926	30,932	34,347				
Stabilization of fish catch		0	103,858	207,717	311,575	415,433	544,111	598,930	593,746	598,930	593,746	598,930	593,746	598,930	593,746	598,930	593,746	598,930	593,746	598,930	593,746	598,930	593,746	598,930	593,746	598,930	593,746	598,930	593,746	598,930	593,746	598,930	593,746	598,930
Depreciate 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
Total	-389	-8,348	-186,244	-187,773	-434,016	-50,024	-47,825	-47,840	-46,790	-51,497	-48,055	-47,681	-48,525	-48,131	-51,242	-48,653	-48,101	30,875	30,880	34,296	30,891	30,886	30,891	30,886	34,321	30,916	30,921	30,926	30,932	34,347				
Balance (Benefit - Cost)																																		
ERR =																																		

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				
PLAN B																																		
Investment	389	8,348	186,244	187,773	402,888																													
OSM (new vessel)		27,641	30,416	30,824	30,850	30,755	34,144	30,835	30,743	30,850	30,755	34,270	30,885	30,870	30,885	30,870	30,875	30,880	34,296	30,891	30,886	30,891	30,886	34,321	30,916	30,921	30,926	30,932	34,347					
OSM (AMA)		18,111	18,949	17,406	17,316	16,938	17,852	17,255	16,938	17,876	18,376	16,872	17,788	17,231	17,876	17																		

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

PLAN A	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
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
Investment	389	8,348	186,244	187,773	402,588	27,641	30,419	30,524	30,529	34,144	30,938	30,745	30,850	30,755	34,210	30,865	30,870	30,875	30,880	34,286	30,891	30,896	30,901	30,906	34,231	30,916	30,921	30,926	34,147	
OSM (new vessel)																														
OSM (AMA)																														
OSM (GAI)																														
Cost	389	8,348	186,244	187,773	402,588	27,641	30,419	30,524	30,529	34,144	30,938	30,745	30,850	30,755	34,210	30,865	30,870	30,875	30,880	34,286	30,891	30,896	30,901	30,906	34,231	30,916	30,921	30,926	34,147	
Stabilization of fish catch																														
Depress 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	
Balance (Benefit - Cost)	-389	-8,348	-186,244	-187,773	-402,588	-27,641	-30,419	-30,524	-30,529	-34,144	-30,938	-30,745	-30,850	-30,755	-34,210	-30,865	-30,870	-30,875	-30,880	-34,286	-30,891	-30,896	-30,901	-30,906	-34,231	-30,916	-30,921	-30,926	-34,147	
ERR =																														
ERR =																														
Exchange rate:																														
100 Yen =																														
1 US\$ =																														

②一般アンタイドの場合

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

PLAN A	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
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
Investment	1,536	25,311	3,619	186,887	371,300	204,145	27,641	30,419	30,524	34,144	30,938	30,745	30,850	30,755	34,210	30,865	30,870	30,875	30,880	34,286	30,891	30,896	30,901	30,906	34,231	30,916	30,921	30,926	34,147	
OSM (new vessel)																														
OSM (AMA)																														
OSM (GAI)																														
Cost	1,536	25,311	3,619	186,887	371,300	204,145	27,641	30,419	30,524	34,144	30,938	30,745	30,850	30,755	34,210	30,865	30,870	30,875	30,880	34,286	30,891	30,896	30,901	30,906	34,231	30,916	30,921	30,926	34,147	
Stabilization of fish catch																														
Depress 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	
Balance (Benefit - Cost)	-1,536	-25,311	-3,619	-186,887	-371,300	-204,145	-27,641	-30,419	-30,524	-34,144	-30,938	-30,745	-30,850	-30,755	-34,210	-30,865	-30,870	-30,875	-30,880	-34,286	-30,891	-30,896	-30,901	-30,906	-34,231	-30,916	-30,921	-30,926	-34,147	
ERR =																														
ERR =																														
Exchange rate:																														
100 Yen =																														
1 US\$ =																														

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				
PLAN A																																		
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	204,145																												
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	
Balance (Benefit - Cost)	-1,536	-25,311	3,619	186,987	371,360	204,145																												
EBRR = 24.3%																																		

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						
PLAN B																																				
Investment	1,536	-25,311	3,619	150,074	314,361	174,366																														
OSM (new vessel)																																				
OSM (AMA)																																				
OSM (CAU)																																				
Total	1,536	-25,311	3,619	150,074	314,361	174,366																														
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	174,366																														
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							
PLAN A																																					
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	204,145																															
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	186,987	371,360	204,145																															
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							
PLAN B																																					
Investment	1,536	-25,311	3,619	150,074	314,361	174,366																															
OSM (new vessel)																																					
OSM (AMA)																																					
OSM (CAU)																																					
Total	1,536	-25,311	3,619	150,074	314,361	174,366																															
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	174,366																															
EBRR = 25.2%																																					

Exchanger rate:
100 Yen = 8.0 DH
1 USD = 78.17 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			
PLAN A																																	
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	21,296	21,303			
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	
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	-21,296	-21,303			
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				
PLAN B																																		
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	36,981	30,741	30,759	31,515	33,292	30,998	30,481	31,322	31,740	33,020	31,440	30,884	17,954	17,954	20,338	17,940	17,941	17,943	17,945	20,345	17,946	17,950	17,952	17,954				
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		
Balance (Benefit - Cost)	-1,536	-25,311	-3,619	-150,074	-314,361	-186,696	-36,981	-30,741	-30,759	-31,515	-33,292	-30,998	-30,481	-31,322	-31,740	-33,020	-31,440	-30,884	-17,954	-17,954	-20,338	-17,940	-17,941	-17,943	-17,945	-20,345	-17,946	-17,950	-17,952	-17,954				
EBRR = 20.4%																																		

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				
PLAN A																																		
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	21,296	21,303				
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	
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	-21,296	-21,303				
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					
PLAN B																																			
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	36,981	30,741	30,759	31,515	33,292	30,998	30,481	31,322	31,740	33,020	31,440	30,884	17,954	17,954	20,338	17,940	17,941	17,943	17,945	20,345	17,946	17,950	17,952	17,954					
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		
Balance (Benefit - Cost)	-1,536	-25,311	-3,619	-150,074	-314,361	-186,696	-36,981	-30,741	-30,759	-31,515	-33,292	-30,998	-30,481	-31,322	-31,740	-33,020	-31,440	-30,884	-17,954	-17,954	-20,338	-17,940	-17,941	-17,943	-17,945	-20,345	-17,946	-17,950	-17,952	-17,954					
EBRR = 18.8%																																			

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

(3) 燃油価格100%アップ及び便益低下の場合（タコ類、エビ類、小型浮魚からの便益のみ）

① ステップの場合

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			
PLAN A																																	
Investment		389	8,348	189,244	187,773	402,988																											
OSM (new vessel)						27,641	30,419	30,524	34,144	30,639	30,745	30,850	30,955	34,270	30,875	30,880	30,870	30,875	30,880	34,296	30,891	30,886	30,901	30,906	34,321	30,916	30,921	30,926	30,932	34,447			
OSM (AMA)					18,111	16,949	17,606	17,316	18,981	17,925	18,836	17,678	18,376	16,972	17,788	17,231																	
OSM (CAI)					13,317	11,435	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total		389	8,348	189,244	187,773	456,024	47,925	47,940	48,760	51,497	48,995	47,941	48,835	48,131	51,242	48,653	48,101	30,875	30,880	34,296	30,891	30,886	30,901	30,906	34,321	30,916	30,921	30,926	30,932	34,447			
Stabilization of fish catch					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
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
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
Balance (Benefit - Cost)		-389	-8,348	-189,244	-187,773	-444,018	-56,024	-16,172	-80,153	-143,186	-204,489	-259,300	-319,127	-341,695	-364,903	-388,958	-389,383	-446,558	-527,397	-605,876	-687,486	-725,096	-725,096	-694,195	-694,195	-694,195	-694,195	-694,195	-694,195	-694,195	-694,195	-694,195	
ERR =					20.9%																												

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				
PLAN B																																		
Investment		389	8,348	159,451	159,396	343,971																												
OSM (new vessel)						23,308	25,484	25,568	25,668	28,233	25,771	25,673	25,775	25,677	28,362	25,782	25,784	25,782	25,784	28,371	25,789	25,781	25,793	25,795	28,373	25,788	25,800	25,802	25,804	28,388				
OSM (AMA)					18,111	16,949	17,606	17,316	18,981	17,925	18,836	17,678	18,376	16,972	17,788	17,231																		
OSM (CAI)					13,317	11,435	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total		389	8,348	159,451	159,396	375,999	51,691	43,770	43,881	43,929	45,605	43,926	43,850	43,803	46,657	43,947	43,894	43,894	43,894	46,676	43,906	43,898	43,910	43,912	46,686	43,906	43,918	43,920	46,700					
Stabilization of fish catch					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
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
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
Balance (Benefit - Cost)		-389	-8,348	-159,451	-159,396	-375,999	-51,691	-21,127	-85,111	-148,160	-210,380	-264,198	-324,198	-384,198	-444,198	-504,198	-564,198	-624,198	-684,198	-744,198	-804,198	-864,198	-924,198	-984,198	-1,044,198	-1,104,198	-1,164,198	-1,224,198	-1,284,198	-1,344,198	-1,404,198	-1,464,198	-1,524,198	
ERR =					22.4%																													

SCENARIO-2 (Mainly 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					
PLAN A																																			
Investment		389	8,348	189,244	187,773	402,988																													
OSM (new vessel)						27,641	30,419	30,524	30,639	30,745	30,850	30,955	34,270	30,875	30,880	30,870	30,875	30,880	34,296	30,891	30,886	30,901	30,906	34,321	30,916	30,921	30,926	30,932	34,447						
OSM (AMA)					18,111	16,949	17,606	17,316	18,981	17,925	18,836	17,678	18,376	16,972	17,788	17,231																			
OSM (CAI)					13,317	11,435	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total		389	8,348	189,244	187,773	456,024	47,925	47,940	48,760	51,497	48,995	47,941	48,835	48,131	51,242	48,653	48,101	30,875	30,880	34,296	30,891	30,886	30,901	30,906	34,321	30,916	30,921	30,926	30,932	34,447					
Stabilization of fish catch					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
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
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
Balance (Benefit - Cost)		-389	-8,348	-189,244	-187,773	-434,016	-56,024	-16,172	-80,153	-143,186	-204,489	-259,300	-319,127	-341,695	-364,903	-388,958	-389,383	-446,558	-527,397	-605,876	-687,486	-725,096	-725,096	-694,195	-694,195	-694,195	-694,195	-694,195	-694,195	-694,195	-694,195	-694,195	-694,195		
ERR =					19.0%																														

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					
PLAN B																																			
Investment		389	8,348	159,451	159,396	343,971																													
OSM (new vessel)						23,308	25,484	25,568	25,668	28,233	25,771	25,673	25,775	25,677	28,362	25,782	25,784	25,782	25,784	28,371	25,789	25,781	25,793	25,795	28,373	25,788	25,800	25,802	25,804	28,388					
OSM (AMA)					18,111	16,949	17,606	17,316	18,981	17,925	18,836	17,678	18,376	16,972	17,788	17,231																			
OSM (CAI)					13,317	11,435	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total		389	8,348	159,451	159,396	375,999	51,691	43,770	43,881	43,929	45,605	43,926	43,850	43,803	46,657	43,947	43,894	43,894	43,894	46,676	43,906	43,898	43,910	43,912	46,686	43,906	43,918	43,920	46,700						
Stabilization of fish catch					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Decrease fisheries resource					0	0	0</																												

SONMARC-2 (Mainland 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	
Investment	1,536	-25,311	3,619	186,887	371,360	204,145																									
OSM (new vessel)							27,841	30,419	30,824	30,529	34,144	30,858	30,745	30,800	30,755	34,270	30,665	30,870	30,875	30,880	34,298	30,881	30,898	30,801	30,406	34,421	30,316	30,321	30,925	30,832	
OSM (AMA)						18,111	16,849	17,406	17,216	18,281	17,852	17,852	16,838	17,676	18,376	16,972	17,788	17,231	17,788	17,231	0	0	0	0	0	0	0	0	0	0	0
OSM (CAI)						13,317	11,435	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total	1,536	-25,311	3,619	186,887	371,360	235,573	56,024	47,825	47,840	48,790	51,497	48,095	47,881	48,325	48,131	51,242	48,653	48,101	30,875	30,880	34,298	30,881	30,896	30,801	30,406	34,421	30,316	30,321	30,925	30,832	
Stabilization of fish catch						0	63,986	127,985	191,989	255,985	318,982	318,982	318,982	318,982	318,982	318,982	318,982	318,982	318,982	318,982	318,982	318,982	318,982	318,982	318,982	318,982	318,982	318,982	318,982	318,982	318,982
Dequeue 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
Benefit	0	0	0	0	0	0	0	63,986	127,985	191,989	255,985	318,982	318,982	318,982	318,982	318,982	318,982	318,982	318,982	318,982	318,982	318,982	318,982	318,982	318,982	318,982	318,982	318,982	318,982	318,982	318,982
Balance (Benefit - Cost)	-1,536	-25,311	-3,619	-186,887	-371,360	-235,573	-56,024	16,172	80,153	143,199	204,489	271,887	272,301	271,456	270,851	268,740	271,328	274,648	276,531	275,929	274,648	271,328	271,881	269,106	268,076	269,060	268,065	269,060	268,055	269,050	
<p>EBRR = 13.2%</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	
Investment	1,536	-25,311	3,619	150,074	314,361	174,366																									
OSM (new vessel)							23,308	25,464	25,565	25,588	28,250	25,771	25,673	25,775	25,677	28,362	25,780	25,782	25,784	25,786	28,371	25,789	25,791	25,793	25,795	28,379	25,798	25,800	25,802	25,804	
OSM (AMA)						15,111	16,849	17,406	17,216	18,281	17,852	17,852	16,838	17,676	18,376	16,972	17,788	17,231	17,788	17,231	0	0	0	0	0	0	0	0	0	0	0
OSM (CAI)						13,317	11,435	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total	1,536	-25,311	3,619	150,074	314,361	205,794	51,691	42,870	42,881	43,829	45,006	43,095	42,899	43,400	43,403	45,333	43,653	43,101	30,875	30,880	34,298	30,881	30,896	30,801	30,406	34,421	30,316	30,321	30,925	30,832	
Stabilization of fish catch						0	63,986	127,985	191,989	255,985	318,982	318,982	318,982	318,982	318,982	318,982	318,982	318,982	318,982	318,982	318,982	318,982	318,982	318,982	318,982	318,982	318,982	318,982	318,982	318,982	318,982
Dequeue 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
Benefit	0	0	0	0	0	0	0	63,986	127,985	191,989	255,985	318,982	318,982	318,982	318,982	318,982	318,982	318,982	318,982	318,982	318,982	318,982	318,982	318,982	318,982	318,982	318,982	318,982	318,982	318,982	318,982
Balance (Benefit - Cost)	-1,536	-25,311	-3,619	-150,074	-314,361	-205,794	-51,691	21,127	85,111	148,100	210,380	276,935	277,372	276,531	275,929	274,648	276,531	276,531	276,531	275,929	274,648	271,328	271,881	269,106	268,076	269,060	268,065	269,060	268,055	269,050	
<p>EBRR = 19.1%</p>																															

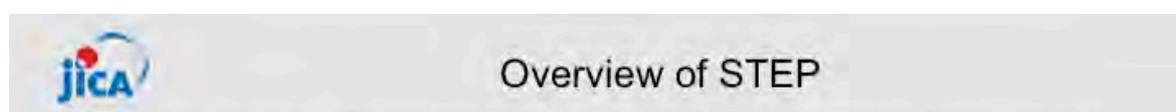
SONMARC-3 (Mainland fish catch at average of last 5 year production only for demersal fishes)

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	
Investment	1,536	-25,311	3,619	186,887	371,360	204,145																									
OSM (new vessel)							27,841	30,419	30,824	30,529	34,144	30,858	30,745	30,800	30,755	34,270	30,665	30,870	30,875	30,880	34,298	30,881	30,898	30,801	30,406	34,421	30,316	30,321	30,925	30,832	
OSM (AMA)						18,111	16,849	17,406	17,216	18,281	17,852	17,852	16,838	17,676	18,376	16,972	17,788	17,231	17,788	17,231	0	0	0	0	0	0	0	0	0	0	0
OSM (CAI)						13,317	11,435	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total	1,536	-25,311	3,619	186,887	371,360	235,573	56,024	47,825	47,840	48,790	51,497	48,095	47,881	48,325	48,131	51,242	48,653	48,101	30,875	30,880	34,298	30,881	30,896	30,801	30,406	34,421	30,316	30,321	30,925	30,832	
Stabilization of fish catch						0	63,986	127,985	191,989	255,985	318,982	318,982	318,982	318,982	318,982	318,982	318,982	318,982	318,982	318,982	318,982	318,982	318,982	318,982	318,982	318,982	318,982	318,982	318,982	318,982	318,982
Dequeue 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
Benefit	0	0	0	0	0	0	0	63,986	127,985	191,989	255,985	318,982	318,982	318,982	318,982	318,982	318,982	318,982	318,982	318,982	318,982	318,982	318,982	318,982	318,982	318,982	318,982	318,982	318,982	318,982	318,982
Balance (Benefit - Cost)	-1,536	-25,311	-3,619	-186,887	-371,360	-235,573	-56,024	16,172	80,153	143,199	204,489	271,887	272,301	271,456	270,851	268,740	271,328	274,648	276,531	275,929	274,648	271,328	271,881	269,106	268,076	269,060	268,065	269,060	268,055	269,050	
<p>EBRR = 15.9%</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	
Investment	1,536	-25,311	3,619	150,074	314,361	174,366																									
OSM (new vessel)							23,308	25,464	25,565	25,588	28,250	25,771	25,673	25,775	25,677	28,362	25,780	25,782	25,784	25,786	28,371	25,789	25,791	25,793	25,795	28,379	25,798	25,800	25,802	25,804	
OSM (AMA)						15,111	16,849	17,406	17,216	18,281	17,852	17,852	16,838	17,676	18,376	16,972	17,788	17,231	17,788	17,231	0	0	0	0	0	0	0	0	0	0	0
OSM (CAI)						13,317	11,435	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total	1,536	-25,311	3,619	150,074	314,361	205,794	51,691	42,870	42,881	43,829	45,006	43,095	42,899	43,400	43,403	45,333	43,653	43,101	30,875	30,880	34,298	30,881	30,896	30,801	30,406	34,421	30,316	30,321	30,925	30,832	
Stabilization of fish catch						0	63,986	127,985	191,989	255,985	318,982	318,982	318,982	318,982	318,982	318,982	318,982	318,982	318,982	318,982	318,982	318,982	318,982	318,982	318,982	318,982	318,982	318,982	318,982	318,982	318,982
Dequeue 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
Benefit	0	0	0	0	0	0	0	63,986	127,985	191,989	255,985	318,982	318,982	318,982	318,982	318,982	318,982	318,982	318,982	318,982	318,982	318,982	318,982	318,982	318,982	318,982	318,982	318,982	318,982	318,982	318,982
Balance (Benefit - Cost)	-1,536	-25,311	-3,619	-150,074	-314,361	-205																									

8-4. 社会経済的インパクト分析

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)			Nombre de pêcheurs estimés (personnes)					
	2008	2009	2010	Moyenne	2008	2009	2010	Moyenne	2008	2009	2010	Moyenne
Pêche côtière												
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%				
Pêche hauturière												
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
CONSERVES												
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
POISSON CONGELE												
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



- 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"> • Interest Rate : 0.2% • Repayment Period : 40years (with grace period of 10 years) • Ref: Under general terms for Morocco, interest rate is 1.4% with repayment period of 25 years (including grace period of 7years)
Country of Origin of Goods and Services	<ul style="list-style-type: none"> • 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.
Finance ratio	<ul style="list-style-type: none"> • Up to 100% of the total project cost (eligible portion) can be financed
Procurement Conditions	<ul style="list-style-type: none"> • Prime contractors must be Japanese firms. • 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. • Subcontractors may be from any country



Advantages of STEP

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

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

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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% (Reduction of 3,238 Million Yen of Interest cost compared to general terms (1.4%)*)	• 0.4% (Reduction of 387 Million Yen of Interest cost compared to general terms (1.5%)*)
2 Faster Schedule	• 16 months faster schedule (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"> • Support for feasibility study • Support for detailed design and for bidding document • Technical assistance for disaster prevention system 	• 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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付属資料 10. 面談者リスト

Ministère de l'Economie et des Finances (MEF)					
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		
Ministère des Affaires Etrangères (MAE)					
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		
Ministères de l'Agriculture et de la Pêche Maritime / DEPARTEMENT DE LA PECHE MARITIME (DPM)					
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		
		Atsushi ISHIKAWA	JICA Expert		
Direction des Pêches Maritimes et de l'Aquaculture	DPMA	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		
		Najib CHIADMI	Chef Service		
		Mustapha FAIK	Directeur Général		
Institut National de Recherche Halieutique	INRH	Souad KIFANI	Secrétaire Générale		
		Abdelmalek FARAJ	Chef du Département des Ressources Halieutiques		
		Karim HILMI	Chef du Département Océanographique et Aquaculture		
		Moumir 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, Financiere, et Comptable		
		Ali BENHRA	Chef de Laboratoire d'Ecotoxicologie		
		Abdellatif BOUMAAZ	Chef de Laboratoire Prospection des Ressources Demersales		
		Ahmed MAKAOUI	URD		
		Driss BENZAZZI	Chef Service Gestion des Navires		
		Hideki TOJO	JICA Expert		
		Centre Regionale de l'INRH Agadir	CR/INRH-Agadir	Abdelhak LAHNIN	Chef du Centre
				Hamid CHFIRI	Chef du L.R.H. / INRH Agdir
				Salaheddine EL AYOUBI	Chef du Labo Prospection Ressources Halieutiques
Tadanori FUJINO	JICA Expert				
Centre Regional de l'INRH Tanger	CR/INRH-Tanger	Benyouness ABDELLAOUI	GIS/remote sensing fisheries and oceanography laboratory		
Délégation des Pêches Maritimes d'Agadir	DPM Agadir	Mohamed MALOULI			
		Jalila MOUFQIA	Déléguée des Pêches Maritimes d'Agadir		
Délégation des Pêches Maritimes de Tanger	DPM Tanger	Youssef KECHA	Chef Service Pêches Maritimes Tanger		
		Mohamed KAMEL	Ingénieur Halieutique Principal		
N/R Charif Al Idrissi	CAI	Abdelouahed NMILY	Captain		
		Abdelaziz SOUSSI	Chef mecanicien		
		Abdelmajid DRIDI	Biologiste		
		Saad RACHDI	Technicien Biologiste		
N/R Al Amir Moulay Abdallah	AMA	Hassan AMNZIL	Second Captain		
		Mohamed AIT HSSAINE	Chef Mecanicien		
Centre Technique / INRH Casablanca	CT INRH Casa	Lahmam MADANI	Maitre Ramendeur		
		Hassan SEMLALI	Secnd Capitain		
		Abdelouahed KHALEKI	Mechanicien Navigant		
Institut Supérieur des Pêches Maritimes	ISPM	Brahim BOUDINAR	Directeur		
		Salah GOUGAL	Capitaine (Navire école)		
Ministères de l'Equippement et du Transport					
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		
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ONGs			
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
Sociétés Privées			
Chantiers Ateliers du Maroc	CAM	Ahmed BEGGUAR	Directeur des Affaires Navales
Ateliers & Chanteirs d'Agadir & du Sous	ACAS	Abdellah EL KONNADI	Responsable Activité Maritime
Chantier Naval Agadir Founty	CNAF	Mounir KHATIRI	Responsable Technique
ISFOMA S.A.R.L Electrique Maritime - Télécom	ISFOMA	Haddou OUYAHYA	Président Directeur Général (P.D.G)
		El Mokhtar OUYAHYA	Service Commercial
		Jamila BENYAHYA	International Service Manager
Société Radio Electronique Maritime	SOREMAR	Mohammed ADDICHI	Directeur Technico-cmmercial
Organisation Régionale			
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
Gouvernement Japonais			
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



**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 & Navigation Plan / Economic & 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&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&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