

表1 M-Dock地先海水の濁度と大腸菌群数

年	濁度 (NTU)			大腸菌群数 (MPN/100ml)		
	観測回数	範囲	平均	観測回数	範囲	平均
1992	8	0.02~0.04	0.350	8	0~12	3.3
1993	11	0.02~1.80	0.509	15	0~16	18.6
1994	16	0.20~1.03	0.515	21	0~37	7.0
1995	21	0.45~3.93	1.286	21	0~138	22.1
1996	17	0.40~6.10	1.949	17	1~143	17.8
1997	11	0.92~2.45	1.385	11	0~44	8.0
合計	84	—	—	93	—	—

データソース:EQPB

表2 サイト周辺海域における海水中の金属元素濃度

単位: ppm

元素	標準値 ²⁾	測定値 ¹⁾					
		1997.11		1998.4.			
		ST.7	ST.1	ST.4	ST.7	ST.10	
ナトリウム	Na	10,561	10,700	11,100	11,100	11,100	10,900
マグネシウム	Mg	1,272	1,250	1,330	1,350	1,350	1,350
カルシウム	Ca	400	408	421	427	420	427
カリウム	K	380	375	378	381	390	383
ケイ素	Si	0.02~4.0	0.11	0.01	0.01	0.01	0.01
リン	P	0.001~0.10	0.10	0.02	0.02	0.02	0.02
鉄	Fe	0.002~0.02	0.02	0.01	0.01	0.02	0.02
マンガン	Mn	0.001~0.01	0.005	0.003	0.003	0.004	0.004
銅	Cu	0.001~0.01	0.008	0.002	0.002	0.007	0.007
亜鉛	Zn	0.005	0.007	0.003	0.002	0.005	0.005
鉛	Pb	0.004	0	0.04	0.03	0.08	0.07
ニッケル	Ni	0.0001	0.04	0.03	0.03	0.02	0.02
カドミウム	Cd	痕跡	0.005	0.003	0.003	0.006	0.006
クローム	Cr	痕跡	0.005	0.009	0.009	0.028	0.028
錫	Sn	痕跡	0.851	0.019	0.018	0.017	0.018

1) 島津工ICPS-1000IVにより測定

2) 「海水の科学」より引用

表3 サイト周辺海域18調査地点におけるサンゴ類の出現状況¹

科 / 属	調査地点番号																	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Strocnidae	ムカシサンゴ科																	
<i>Stylocoeniella</i>	ムカシサンゴ属																	
												+						
Pocilloporidae	ハナヤサイサンゴ科																	
<i>Pocillopora</i>	ハナヤサイサンゴ属																	
		+	+	+	+	+				+	+	+			+	+	+	+
<i>Seriatopora</i>	トゲサンゴ属																	
												+						+
<i>Stylophora</i>	ショウガサンゴ属																	
					+	+												
Acroporidae	ミドリイシ科																	
<i>Montipora</i>	コモンサンゴ属																	
	+			+	+	+			+	+	+	+	+	+	+	+	+	+
<i>Anacropora</i>	トゲミドリイシ属																	
					+	+	+			+	+	+	+		+			+
<i>Acropora</i>	ミドリイシ属																	
				+	+			+		+	+	+	+		+	+	+	
Poritidae	ハマサンゴ科																	
<i>Porites</i>	ハマサンゴ属																	
	+	+	+	+	+	+			+	+	+	+	+		+	+	+	+
Siderastreidae	ヤスリサンゴ科																	
<i>Psammocora</i>	アミメサンゴ属																	
		+													+		+	
Agariciidae	ヒラフキサンゴ科																	
<i>Pavona</i>	シコロサンゴ属																	
												+			+	+		+
<i>Pachyseris</i>	リュウモンサンゴ属																	
			+												+	+	+	+
Fungiidae	クサビライシ科																	
<i>Heliofungia</i>	バラオクサビライシ属																	
										+	+	+						+
<i>Fungia</i>	クサビライシ属																	
			+	+		+				+	+	+	+		+	+	+	
<i>Sandacolitha</i>	ヘルメットイシ属																	
			+									+						
Oculinidae	ピロガライシ科																	
<i>Galaxea</i>	アザミサンゴ属																	
						+									+			
Pectiniidae	ウミバラ科																	
<i>Pectinia</i>	スジウミバラ属																	
	+	+	+		+	+						+			+	+		+
Ussidae	オオトゲサンゴ科																	
<i>Lobophyllia</i>	ハナガタサンゴ属																	
	+	+	+	+	+	+						+			+	+	+	+
Merulinidae	サザナミサンゴ科																	
<i>Hydnophora</i>	イボサンゴ属																	
															+	+		
<i>Merulina</i>	サザナミサンゴ属																	
	+	+	+	+	+						+	+			+		+	+
Faviidae	キクメイシ科																	
<i>Favia</i>	キクメイシ属																	
	+	+	+	+	+	+			+	+		+	+		+	+	+	+
<i>Favites</i>	カメノコキクメイシ属																	
	+	+	+			+			+	+	+	+	+		+	+	+	+
<i>Goniastrea</i>	コカメノコキクメイシ属																	
	+			+	+	+			+	+		+						+
<i>Platygyra</i>	ノウサンゴ属																	
		+	+	+		+						+			+	+	+	
<i>Montastrea</i>	マルキクメイシ属																	
																		+
<i>Diploastrea</i>	ダイオウサンゴ属																	
																+	+	
<i>Leptastrea</i>	ルリサンゴ属																	
	+	+	+	+	+	+					+	+			+			+
<i>Cyphastrea</i>	トゲミクメイシ属																	
	+	+	+	+	+	+					+	+			+	+	+	+
<i>Echinopora</i>	ウツボキクメイシ属																	
	+	+	+									+			+	+	+	+
Milleporidae	アナサンゴモドキ科																	
<i>Milepora</i>	アナサンゴモドキ属																	
															+	+	+	

注¹: 1997年11月13~15日の潜水調査に基づく; + は各地点における出現を示す

表4 旅行者が期待するビジターセンターの機能／展示内容

項 目	ビジターセンターに期待する機能／展示内容 ^{<1}		
	台湾人 (N=206)	日本人 (N=166)	米国人 (N=84)
生きた生物の展示(水槽)	89.8	75.3	79.8
ダイビングに関する情報	67.5	58.4	56.0
サンゴ礁の保全・情報	51.5	42.8	65.5
リーフレット等の出版物、図書館利用	55.8	30.7	58.3
パネル、ジオラマ展示、AV	47.6	41.0	67.9
学習会、エコツアー	58.7	18.7	61.9

出所: B/D調査団インタビュー調査(1997年11月)

注<1: 各項目について期待すると答えた回答者数÷全回答者数×100

〔付属資料I〕

1. ビジターセンターの入館者数、入館収入およびミュージアムショップの売上予測
2. 本センターにおけるその他の収入の予測
3. 展示水槽からの排出海水のSSおよびBODの推定

付属資料 I.1 ビジターセンターの入館者数、入館収入およびミュージアムショップの売上予測

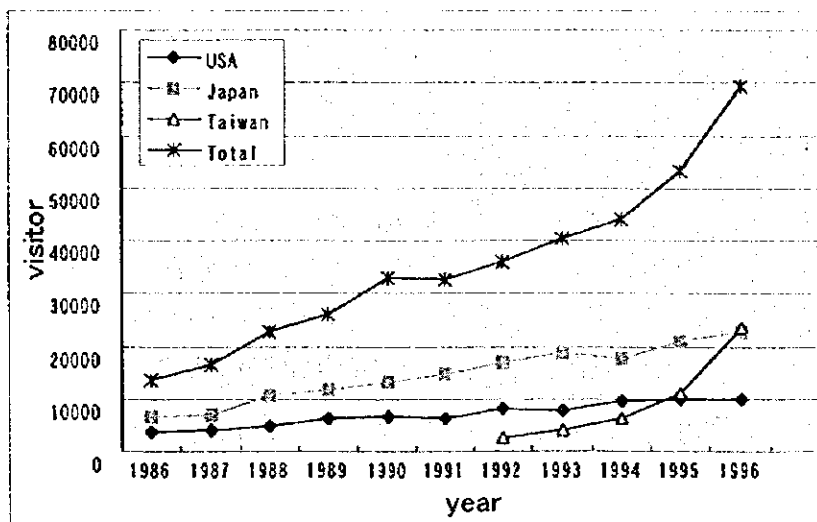
(1) 入館者数と入館収入

パラオの訪問者数は、従来は日本人と米国人を主体に伸びてきたが、近年両国の訪問者数に伸び悩みが見られる一方で、台湾人の急増など質の変化が見られる(図1)。また、1998年後半になってからの世界経済の混乱は長期化の兆しがみられ、訪問者数の伸びを抑制する要因になると考えられる。このような状況下では、現時点で長期にわたった訪問者数の予測は困難である。このため本計画の予測では本センターの開館を2000年と想定し、5年日にあたる2004年までの推定にとどめることとした。また、パラオの訪問者数は以下に示す3つのケースで予測することとした。

ケース1; 過去5年間(1992-1996年)における訪問者数の年平均伸び率に基づいて予測する。ただし、台湾人の伸び率には他の外部条件を加味する。

ケース2; 1999~2000年における伸び率はケース1と同率とするが、2001~2004年の伸び率は半減する。

ケース3; 1999~2000年の伸び率はケース1と同率とするが、2001~2004年の伸び率は0とする。



パラオ訪問者数年間伸び率 1992-1996	台湾人:	53.3%
	日本人:	7.3%
	米国人:	5.5%
	その他:	12.5%

図1. 国籍別パラオ訪問者数の推移 1986-1996年
出所: Bank of Hawaii 1997

1) ケース1での予測

① パラオへの訪問者数の推定

- 台湾人を除いて、過去5年間(1992-1996年)の訪問者数の年間平均伸び率は、日本人7.3%、米国人5.5%、その他12.5%である。

- ・台湾人の場合、94年以降の増加が急激なため長期の伸び率の予測が困難であることから、訪問者受入れの制限要因となっているホテルの収容能力の伸び率（表1）をもとに、6.0%と仮定することとした。

表1. パラオにおけるホテル数と客室数の推移

年	ホテル数	部屋数
1993	26	577
1994	25	645
1995	29	699
1996	30	716
1997	31	726
計画数*	23	4,569

出所：PVA

注：*1997年現在建設許可の申請がPVAに提出されているホテル

- ・以上により、パラオ国の推定訪問者数については表2のような結果が得られた。

表2. 国籍別パラオ訪問者数の推定 単位：人/年

年	合計	台湾人	日本人	米国人	その他
1997	75,139	32,166	19,679	10,000	13,294
1998	80,717	34,096	21,116	10,550	14,956
1999	86,754	36,142	22,657	11,130	16,825
2000	93,292	38,310	24,311	11,742	18,928
2001	100,377	40,609	26,086	12,388	21,294
2002	108,061	43,045	27,990	13,070	23,956
2003	116,400	45,628	30,033	13,788	26,951
2004	125,458	48,366	32,226	14,547	30,320
2005	135,302	51,268	34,578	15,347	34,110

②観光客数の推定

パラオ訪問者の中には、商業目的の訪問者が含まれる。全訪問者に対する商用目的訪問者の割合は表3のとおりである。予測では、センターの潜在入館者は観光客のみと仮定し、観光客数は全訪問者数から商業目的訪問者数を差し引いた数とした。

表3. 全訪問者に対する商用目的訪問者の割合

単位：%				
全体	台湾人	日本人	米国人	その他
8	1	4	18	35

出所：PVA

③ビジターセンターへの潜在入館者数の推定

アンケート調査でビジターセンターを「ぜひ訪れたい」、「関心がある」と答えた回答者の比率（センターへの関心度）を求め（表4参照）、観光客数にその比率を乗じた数を潜在入館者数とみなした。

表4. 観光客の本ビジターセンターへの関心度⁴⁾

単位：%				
	台湾人 (N=217)	日本人 (N=186)	米国人 (N=83)	その他 (N=5)
1.ぜひ訪れたい	73	45	76	60
2.関心がある	25	52	24	40
3.関心がない	2	3	0	0
1+2	98	97	100	100

出所：B/D調査団によるパラオ訪問者出国時アンケート調査(1997年11月)
注<1：各項目の回答者数÷全回答者数×100

一方、入館者数は入館料に影響され、高くなるほど入館者数が少なくなることが予想され、また日本人・米国人に比べ台湾人が妥当と考える料金レベルは低い(表6)。

表5. 観光客が妥当と考える本ビジターセンターの入場料金<1

料金 US\$	単位：%							
	台湾人 (N=200)	累積	日本人 (N=177)	累積	米国人 (N=84)	累積	その他 (N=5)	累積
1	45	100	10	100	1	100	0	100
3以下	33	55	33	90	18	99	0	100
5以下	18	22	43	57	44	81	80	100
7以下	2	4	5	14	16	37	20	20
10以下	2	2	9	9	21	21	0	0

出所：B/D調査団によるパラオ訪問者出国時アンケート調査(1997年11月)
注<1 各料金設定に対して妥当と答えた回答者数÷全回答者数×100

以上の検討に基づき、2000年をビジターセンター開館年と仮定して料金設定別・国別の入館者数を試算した(表6)。

表6. 料金設定別に見たビジターセンター入館者数と入館収入の予測(2000年)

入館料金(ドル/人)	入館者数(人/年)					入館収入(\$/年)	入場率(%)
	合計	台湾人	日本人	米国人	その他		
1	81,737	37,168	22,638	9,628	12,303	81,737	88
3<1	62,651	20,442	20,374	9,532	12,303	187,953	67
5<2	41,183	8,177	12,904	7,799	12,303	205,915	44
7	10,679	1,487	3,169	3,562	2,461	74,753	11
10	4,802	743	2,037	2,022	0	48,020	5
\$3&5<3	53,448	20,442	12,904	7,799	12,303	226,356	57

注：<1 入館料を一律\$3と設定した場合。

注：<2 入館料を一律\$5と設定した場合。

注：<3 個人入館料\$5、団体料金\$3と設定。台湾人はすべて団体旅行客と仮定する。

これによると、入館者数が最も多くなるのは当然最低料金設定の場合であるが、入館収入が最も多くなるのは、台湾人に対しては3ドル/人(団体料金)を適用し(事実、台湾人はほとんどが団体客)、他の観光客は5ドル/人(個人料金)と設定した場合であることが判明した。

一方、パラオ在住者の入館収入は、以下の仮定に基づくこととする。

(a)首都コロールに居住する年齢18歳～59歳の人々7,644人(1995センサス時)が5年以内に一度は入館する(1,529人/年)。

(b)パラオ人の入館料は外国人団体料金(\$3/人)より安い\$2/人とする。

すなわち、パラオ人による入館収入=7,644人÷5年×\$2/人

= \$3,057/年と設定する。

以上の予測結果と仮定をもとに、センター開館後5年間(2004年まで)の入館者数と入館収入を予測し、表7に示した。

表7. ケース1におけるビジターセンター入館者数と入館料収入の予測⁴⁾

年	パ国訪問者数 (人/年)	入館者数 (人/年)		入館収入 (\$/年)		合計
		外国人	パ対人	外国人	パ対人	
2000	93,292	53,448	1,529	226,356	3,057	229,413
2001	100,377	57,583	1,529	244,578	3,057	247,635
2002	108,061	62,077	1,529	264,447	3,057	267,504
2003	116,400	66,964	1,529	286,126	3,057	289,183
2004	125,458	72,284	1,529	309,802	3,057	312,859

注1: 個人入館料\$5、団体料金\$3と設定し、台湾人はすべて団体客と仮定。

2) ケース 2 での予測

1999～2000年におけるパラオ訪問客数の伸び率はケース1と同率とし、2001～2004年の伸び率が半減すると仮定して、ビジターセンター入館者数と入館料収入を予測した(表8)。

表8. ケース2におけるビジターセンター入館者数と入館料収入の予測

年	パ国訪問者数 (人/年)	入館者数 (人/年)		入館収入 (\$/年)		合計
		外国人	パ対人	外国人	パ対人	
2000	93,292	53,448	1,529	226,356	3,057	229,413
2001	96,805	55,497	1,529	235,383	3,057	238,440
2002	100,466	57,636	1,529	244,812	3,057	247,869
2003	104,284	59,868	1,529	254,672	3,057	257,729
2004	108,262	62,197	1,529	264,975	3,057	268,032

3) ケース 3 での予測

1999～2000年におけるパラオ訪問客数の伸び率はケース1と同率とし、2001～2004年は伸び率が0になると仮定して、ビジターセンター入館者数と入館料収入を予測した(表9)。

表9. ケース3におけるビジターセンター入館者数と入館料収入の予測

年	パ国訪問者数 (人/年)	入館者数 (人/年)		入館収入 (\$/年)		合計
		外国人	パ対人	外国人	パ対人	
2000	93,292	53,448	1,529	226,356	3,057	229,413
2001	93,292	53,448	1,529	226,356	3,057	229,413
2002	93,292	53,448	1,529	226,356	3,057	229,413
2003	93,292	53,448	1,529	226,356	3,057	229,413
2004	93,292	53,448	1,529	226,356	3,057	229,413

(2) ミュージアムショップの売上高と仕入費用

a) 売上高の設定

パラオ訪問者の1人当たり土産購入額の傾向を表10に示した。

表10. パラオ訪問者の1人当たり土産購入額別組成 (実人数と割合)

	0~9ドル	10~29ドル	30~49ドル	50~69ドル	70ドル以上
日本人(ダイバー内訳) N=191	2(2) 1.0%	37(23) 19.3%	32(19) 16.8%	24(15) 12.6%	96(56) 50.3%
台湾人(ダイバー内訳) N=238	33(0) 13.9%	35(4) 14.7%	53(1) 22.3%	57(9) 23.9%	60(8) 25.2%
米国人(ダイバー内訳) N=92	2(0) 2.2%	19(6) 20.6%	10(5) 10.9%	13(6) 14.1%	48(26) 52.2%

出所：出国時アンケート調査結果 (1997年11月)

注①：カッコ内の数字はダイバーの数

これによると、日本人と米国人（その他を含む）の殆んどの人が土産を買い、60%以上の人が50ドル以上購入している。台湾人の場合、約14%の人が土産を買わないか、10ドル未満であるが、約50%の人が50ドル以上購入している。ダイビング目的で来た人も同じ傾向を示している。5ドル/人の入館料で日本人の57%、米国人の82%、その他の100%が入館すると予測されるので、ミュージアムショップの商品が魅力的であれば、彼等がそれを購入する可能性は非常に高く、また、購入額も高くなると考えられる。

台湾人の場合、団体料金を適用することで、55%の人が入館する。そのうちの約80%の人がミュージアムショップで商品を購入する可能性がある。

ミュージアムショップの売上は次式で求めることとする。

$$\text{売上高} = \text{入館者数} \times \text{1人当たり平均購買額}$$

1人当たりの平均購買額は、米国の9つの水族館の場合、平均で2.13ドル、中央値で1.92ドルとのことであるが (Waikiki 水族館ビジネスマネージャーKuroda 氏情報)、パラオ国立博物館 (Belau National Museum) における実績値は5.0ドルとなっている (表11参照)。

表11 パラオ国立博物館における入館者数と売店売上金額 (1997年3月)

入館者数 (人/月)	入館料収入 (ドル/月)	売店売上 (ドル/月)	収入合計 (ドル/月)	売店における 1人当たり購入額(ドル/人)
1,486	2,961	7,432	10,393	5.0

出所：Belau National Museum

パラオに来訪する観光客の大部分が大人であり、土産の購入額が大きいこと、また、本計画のビジターセンターはパラオにおける数少ない陸上のアトラクションスポットになることを考慮し、センター開設当初5年間の1人当たりの平均購入額を2.5ドルと想定する。

b) 仕入費用の設定

仕入費は、パラオ国立博物館の場合は、売値の 75%とのことであったが、コロール市内の民間ギフトショップでは売値の約 50%が一般的であった。ハワイの Waikiki 水族館の場合は 53%が実績値である（同 Kuroda 氏情報）。本センターは、公社法に基づいて独立採算を目指す必要があるため、民間ベースの費用算定を採用すべきである。したがって、仕入費用は、ワイキキ水族館の実績値 53%で設定することとする。

c) ミュージアムショップの売上高と仕入費用

パラオ入館者はミュージアムショップで商品購入はしないとの想定で、a)、b) よりケース 1 の場合のミュージアムショップの売上高と仕入費用を予測し、表 12 に示した。

表 12 ミュージアムショップの売上予測¹⁾

年	外国人入館者数 (人/年)	1人当平均購入額 (ドル/人)	売上高 (ドル/年)	仕入費用 (ドル/年)
2000	53,448	2.5	133,620	70,819
2001	57,583	2.5	143,958	76,298
2002	62,077	2.5	155,193	82,252
2003	66,964	2.5	167,410	88,727
2004	72,284	2.5	180,710	95,776

注<1>：ケース 1 での入館者数をベースにした予測値

2004 年におけるケース 2、ケース 3 の売上高は、各々約 15.5 万ドル、約 13.4 万ドル、仕入費用は各々約 8.2 万ドル、約 7.1 万ドルと予測される。

(3) ビジターセンターの予測収入

(1)で求めた入館収入、(2)で求めたミュージアムショップ売上高をベースに、ケース 1 の場合のビジターセンターの予測収入を算出すると表 13 のようになる。

表 13 ビジターセンターの予測収入¹⁾

年	単位：ドル/年		
	入館収入	ミュージアムショップ売上	合計
2000	229,413	133,620	363,033
2001	247,639	143,958	391,593
2002	267,504	155,193	422,697
2003	289,183	167,410	456,593
2004	312,859	180,710	493,569

注<1>：ケース 1 での入館者数をベースにした予測値

2004 年におけるケース 2、ケース 3 のビジターセンターの予測収入は、それぞれ約 42.3 万ドル、約 36.3 万ドルとなる。

付属資料 I.2 本センターにおけるその他の収入の予測

(1) グラスポートレンタル料

類似サービスをする民間業者の圧迫につながるため、グラスポートは本計画では扱わない。

(2) 研究施設使用料

a. 1日当り使用料の設定

研究者が研究施設を使用する場合の費用（ポート代は除く）は、空調・上下水道などのユーティリティー料金と機材損料である。研究棟の年間のユーティリティー料金は最大で約 19,872 ドルであり、年間 300 日稼動とすると 1 日当り約 66.2 ドルとなる。研究者数はピーク時に 5 名であるため、1 人当りのユーティリティー料金は約 13.2 ドル/日となる（実際には研究者が常時 5 名はいないので料金はこの数値よりやや高くなるが、計算が複雑になるので、ピーク時の研究者数で算定した）。機材の平均耐用年数を 7 年、補修費を直工費の 1% と想定すると、機材の損料原価は年間約 24,600 ドルであり、1 日当り約 82.0 ドルとなる。したがって、1 人当りの損料原価は 20.4 ドル/日となる。以上から、施設を使用することにより発生する費用は研究者 1 人当り約 29.6 ドル/日となるため、これに約 10% を上乗せし、本計画では 33 ドル/日を徴収することとする。

b. 年間使用頻度と予測収入

CRRF の場合、訪問研究者が施設を年間 200 日使用しているとのことであるが、本計画では以下のように段階的に使用頻度が増えるものと想定する：

<1>初年度は日・米の研究者が各 1 ヶ月、合計 2 人月滞在する。

<2>3 年目は日・米の研究者が春・夏の休みに合計 4 人月滞在する。

<3>5 年目は長期滞在の予算を取得した研究者 1 人が 6 ヶ月滞在する。また、日・米の研究者が春・夏の休みに合計 4 人月滞在する。

以上の想定より、訪問研究者の施設使用による収入は 1 年目 1,980 ドル、3 年目 3,960 ドル、5 年目 9,900 ドルとなる。

(3) 宿泊施設使用料

a. 宿泊料の設定

CRRF は寝椅子で 20 ドル/日、ベッドルームで 30 ドル/日を徴収している。また、グアム大の海洋研究所ではベッドルームで 20 ドル/日を徴収している。本計画では、リネンは研究者自身が洗濯することを条件に、20 ドル/日でベッドルームを貸与することとする。

b. 年間宿泊数と予測収入

研究施設の年間使用頻度は前項で1年目2人月(60人日)、3年目4人月(120人日)、5年目10人月(300人日)と想定した。したがって宿泊料を20ドル/日とすると、宿泊施設からの収入は1年目1,200ドル、3年目4,200ドル、5年目6,000ドルとなる。

(4) 委託研究料

委託研究の発注者は、基本的には受託者の研究実績や研究者の実行能力を評価したうえで発注する。センターが委託研究の発注を受けるには研究実績を積む必要があるため、センター開設後しばらくの期間は受注できないと考えられる。Grant Writerの助けを借りて委託研究を受注したとしても、実施能力がないので他の研究機関との共同研究という形式をとる必要がある。その場合、本センターの受け取る金額は多いものではなく、現時点でその金額を想定するのは難しい。したがって、開設当初の5年間には委託研究収入は含めないこととする。

(5) 税金からの補助金(ダイビング税、ホテル税等)

本センターに対する補助金が政府から付与されるか否かは、パラオ政府が決定することであるので、本計画では本センター開設当初の収支バランスを政府に提示するにとどめ、補助金による収入は予測しない。

(6) 会員費

a. 会員数の設定

パラオの村落では、かつて村長を中心にサンゴ礁の資源を適正に利用する慣習があった。この伝統をふまえ、本センターの啓蒙活動の一環として「サンゴ礁保全の会」を設置し、その会員を募ることは、本センターの目的に合致する。本センターの開設当初の会員希望者数は多くはないだろうが、適正なイベントを行うことで段階的に会員数は増加すると考えられる。本計画では、開設当初から5年間のパラオ人入館者数は毎年約1500名と見込んでいる(付属資料I.1参照)。これらの内の1~2%(15~30名)が会員になると仮定すると、会員数は初年度で22名、その後毎年22名ずつ増え、2004年には110名となる。外国入館者からの会員希望者もあると考えられるが、収入予測には勘定に入れないこととする。

b. 会費と予測収入

PCSもメンバー会員を募っており、会費は10ドル/年である。本センターの会費も年間10ドルと設定する。会員には会員証とワッペンが発給される。会員はビジターセンターへの入館料を無料とし、会員の定期的会合や各種イベントに参加できることとする。

このような想定での会員からの予測収入を次表に示した。

会員からの予測収入

年	会員数 (人)	予測収入(ドル/年)
2000	22	220
2001	44	440
2002	66	660
2003	88	880
2004	110	1,100

(7) 認証発行料

本センターで認証発行の可能性のある事項は次のようなものである。

- ・旅行ガイド、ダイビング・インストラクターに対するサンゴ礁保全研修コースの修了を認証する（受講の必要性が法で定められた場合に実現化される）。
- ・海洋生物の輸出に関連し、それらの輸出が法に従っているものであるかどうかを生物学的見地より検査し認証する。

本センターに対するこのような認証権の付与はあってもよいが、これにはあらかじめパラオ政府内で関連法の整備や省庁間の権限調整が行われ、コンセンサスが得られなければならない。したがって、このような認証発行収入の実現は将来課題とし、本計画の当初5年間の収入には勘定しないこととする。

(8) ビジターセンターの施設使用料

パラオでは一般市民が集まってパーティーやイベントを催す場所が少ないため、そのような場所借用の需要が大きい（PCS 理事 Eleldui 氏の情報）。本センターの多目的室の場合、夜間であればそのような会合への提供は可能であるため、収入源として考慮することとする。ただし、この場合、センターとしては会合場所提供以外のサービスはしない。場所提供の費用としては、空調、照明等の電気代、マイク、椅子等の使用料であるが、実費は時間当たり約2ドルである。したがって、会合時間が3~4時間続き警備員が後始末に若干の時間を使ったとしても出費は大きなものではないので、1回当たり100ドル徴収すれば実収入は大きい。1ヶ月に1回の割合で場所を提供すると仮定し、年間1,200ドルの収入を見込むこととする。

(9) ベンディングマシンの売上利益

ビジターセンターには清涼飲料水のベンディングマシンを設置することになる。その売上利益は12オンス缶で0.16ドルである。ワイキキ水族館の場合、利用実績は入館者の約10%とのことである（Waikiki 水族館 Kuroda 氏情報）。本センターの予測入館者数とこの購買者率をもとに、ケース1でのベンディングマシンによる売上利益を算定すると次表に示すとおりとなる。

ベンディングマシンからの予測売上利益

年度	入館者数 (対人含む) (人/年)	ベンディングマシン 販売台数 (台/年)	利益率 (ドル/台)	売上利益 (ドル/年)
2000	54,977	5,497	0.16	880
2001	59,112	5,911	0.16	946
2002	63,606	6,360	0.16	1,018
2003	68,493	6,849	0.16	1,096
2004	73,813	7,381	0.16	1,181

2004年におけるケース2、ケース3の予測売上利益は、それぞれ1,020ドル、880ドルである

(10) 研究用ボートレンタル収入

a. レンタル料の設定

訪問研究者が本センターのボートを借りる場合には、レンタル料を徴収することとする。ボートの損料原価は約46.4ドル/日である。また、ボートドライバーの日給は、約44ドル/人/日である。

ボートや船外機の管理責任を明確にするため、ボートのレンタルは本センターに所属するドライバーの使用を原則とする。したがって、レンタル料原価はガソリン代抜きで90.4ドル/日となる。これに10%を上乗せし、レンタル料を100ドル/日と設定する。ガソリン代は研究者負担とする。

b. 年間レンタル収入

研究計画で予測した訪問研究者数をもとにボートのレンタル収入を算定し、下表に示した。

研究用ボートレンタルからの予測収入

年	訪問研究者数 (人日)	ボート利用日数 (日/年)	レンタル料 (ドル/日)	レンタル収入 (ドル/年)
2000	2人が各30日	30	100	3,000
2001	(計 90日)	(45)	100	(4,500)
2002	2人が各60日	60	100	6,000
2003	(計 150日)	(75)	100	(7,500)
2004	1人が180日および 2人が各60日	90 60	100	15,000

注：研究者は滞在日数の50%を野外調査に消費すると仮定。

() 内の数値は前後の年の平均値

付属資料 I.3 展示水槽からの排出海水の SS および BOD の推定

(1) 水槽の種類と海水の給排水方法

水槽の種類	水容量(トン)	給水方式	回転数(回/日)	1日当り排水量(トン/日)	口過槽洗浄方法と回数 ²⁾	洗浄水量(トン/回)
I. 屋外池						
1(マングローブ)	24.0	かけ流し	18	432.00	—	—
2(沿岸海草帯)	43.2	〃	18	777.60	—	—
3(礁湖)	36.0	〃	24	864.00	—	—
				(小計)2,073.60		
				(99.87%)		
4(礁湖・礁原)	21.6	閉鎖循環	24	1.08 ¹⁾	口過槽の洗浄 ³⁾ 4槽:2回/月	9.0/槽/回
II. 屋内水槽						
1(外洋礁斜面)	21.7	閉鎖循環	24	1.09 ¹⁾		
2(サンゴ礁の生物)	0.2	〃	24	0.01 ¹⁾	口材洗浄 2回/月	0.16/回
3(〃)	0.2	〃	24	0.01 ¹⁾	〃	〃
4(〃)	0.2	〃	24	0.01 ¹⁾	〃	〃
5(〃)	0.8	〃	24	0.04 ¹⁾	〃	0.64
6(〃)	0.8	〃	24	0.04 ¹⁾	〃	〃
7(〃)	0.8	〃	24	0.04 ¹⁾	〃	〃
8(〃)	0.6	〃	24	0.03 ¹⁾	〃	0.48
9(〃)	0.6	〃	24	0.03 ¹⁾	〃	〃
10(〃)	0.6	〃	24	0.03 ¹⁾	〃	〃
11(〃)	0.6	〃	24	0.03 ¹⁾	〃	〃
12(クラゲ)	1.8	〃	24	0.09 ¹⁾	〃	1.44/回
13(サンゴ)	3.0	〃	24	0.15 ¹⁾	〃	2.40/回
14(サンゴ増殖)	0.6	〃	24	0.03 ¹⁾	〃	0.48/回
				(小計) 2.71		
				(0.13%)		
合 計	—	—	—	2,076.31	—	—
				(100.00%)		

注<1>: 水容量の5%を毎日新水で置換する。

<2>: 逆洗水あるいは口材洗浄水は、その都度沈殿槽で懸濁物を沈殿させた後、上澄液のみを海に排出する。また、沈殿物は別途回収する。

<3>: 1回当りの逆洗水量を少なくするため、口過槽を4個の区分に分け、各区分を2回/月の頻度で逆洗する。

(2) 排水海水の SS および BOD の推定

ビジターセンターからの排出海水には以下の2種類がある。

- ・主として屋外池から毎日排出される海水
- ・循環水槽の口過槽を洗浄する際に排出される海水

これら2種類の排水海水の SS、BOD を以下のように推定した。

1) 毎日排水される海水

上表に示すように、毎日排出される海水は2,076.31トン/日で、そのうち2,073.60トン(99.87%)は屋外池から、2.71トン(0.13%)は循環水槽からの排水である。循環水槽の海水は全容量の5%が毎日新海水と置換されるため、それと等量の古海水が排水される。SS および BOD は屋外池の無処理の海水の方が理論的には高いと考えられ、また排水量も循環水槽に比べはるかに多い。このため、屋外池の排水海水の SS、BOD を推定し次表に示した。

①屋外池の排出海水の SS、BOD 負荷

	a	b	c	d	e	f	g	h	i	j	k	l
	水容量	回転数	生物収容密度	生物量	給餌率	給餌量	乾物	灰分	有機物	有機体排出物	SS 負荷/日	BOD 負荷/日
計算式	-	-	-	(a×c)	-	(d×e)	(f/3)	(g×0.2)	(g×0.8)	(i/3)	(h+j)	(l/1.5)
単位	×10 ⁴ l	回/日	% ⁻¹	kg	% ⁻²	kg	g	g	g	g	g	g
屋外池1	24.00	18.00	0.10	24.00	2.00	0.48	160.00	32.00	128.00	42.67	74.67	28.45
屋外池2	43.20	18.00	0.10	43.20	2.00	0.86	287.00	57.40	229.60	76.80	134.20	51.20
屋外池3	36.00	24.00	0.10	36.00	2.00	0.72	240.00	48.00	192.00	64.00	112.00	42.67
計	103.20	-	-	-	-	-	-	-	-	-	320.87	122.32

注<1>: 水量に対する重量比
<2>: 生物量に対する重量比

②屋外池の排出海水の SS、BOD の平均値

	a	b	k	l	m	n	o
	水容量	回転数	SS 負荷/日	BOD 負荷/日	排水量/日	SS	BOD
計算式	-	-	(h+j)	(l/1.5)	-	-	-
単位	m ³	回/日	g	g	m ³	mg/L	mg/L
屋外池1	24.00	18.00	74.67	28.45	432.00	0.17	0.07
屋外池2	43.20	18.00	134.20	51.20	777.60	0.17	0.07
屋外池3	36.00	24.00	112.00	42.67	864.00	0.13	0.05
計	103.20	-	320.87	122.32	2,073.60	0.15	0.06

注<1>: 水量に対する重量比
<2>: 生物量に対する重量比

以上より、ピジターセンターからの排出海水の大部分を占める屋外池からの排出水の SS は、平均 0.15ppm、BOD は平均 0.06ppm と推定される。海産生物を実験的に飼育して SS 濃度の影響をみた場合に、5ppm 以下で生育に悪影響が出た例は、ある種の冷水性の海藻（ワカメ）およびカキにみられるが、その他では問題はない。BOD も 3ppm 以下で生育に問題が生じた例は報告されていない。排水の SS と BOD は、給餌時に上昇するなど時間により変化するが、一時的に上記平均値より大幅に増加したとしても、生物に対する安全値の範囲にとどまるものと考えられる。したがって、屋外池からの排水を直接海に放流しても問題ないと判断される。

2) 循環水槽の口過槽を洗浄する際に排出される海水

循環水槽の口過槽を洗浄すると、経験的に SS: 150~300ppm、BOD50~100ppm といった高数値の廃液が排出される。ピジターセンターの循環水槽での 1 回当りの最大洗浄水量は 9t であり、この水の中の固形物を沈殿槽中で 24 時間沈殿させたあと、その上澄液を 24 時間かけて屋外池からの排出海水に混合して排出する。

その場合の SS は最大値で

$$SS_{max} = 300\text{mg/L} \times 9 \times 10^3 \text{L} \div (2,073.6 \times 10^3 \text{L}) = 1.30\text{mg/L}$$

$$BOD_{max} = 100\text{mg/L} \times 9 \times 10^3 \text{L} \div (2,073.6 \times 10^3 \text{L}) = 0.43\text{mg/L}$$

となる。これらの SS、BOD 負荷を屋外池からの排水に加えたとしても、その値は SS1.45ppm、BOD0.49ppm にとどまる。したがって、前述の条件下で、このような廃液を海に放出しても生物に悪影響を与えるとは考えられない。

〔付属資料II〕

1. 調査団員氏名所属
2. 調査日程
3. 関係者リスト
4. ミニッツおよびメモランダム
5. 大統領令144
6. 大統領令152
7. 公社設立法案
8. 国際サンゴ礁イニシアティブの概要
9. 収集資料リスト
10. 当該国の社会・経済事情

附属資料Ⅱ-1 調査団員氏名所属

基本設計調査Ⅰ

氏名	担当	所属
八木 毅	総括	外務省経済協力局無償資金協力課課長
大森 信	技術参与	東京水産大学資源育成学科教授
横地 洋之	技術参与	東海大学海洋研究所助教授
奥田 直久	技術参与	環境庁自然保護局計画課審査官
志村 茂	技術参与	国際協力事業団国際協力専門員
瀧沢 浩一	技術協力計画	国際協力事業団企画部地域第2課
坂田 章吉	計画管理	国際協力事業団無償資金協力調査部 調査第1課
多紀 保彦	業務主任/運営維持管理計画	システム科学コンサルタンツ株式会社
藤原 秀一	珊瑚礁研究/保全計画	財団法人海中公園センター
富山 保	ビジターセンター 運営計画	システム科学コンサルタンツ株式会社
角永 博	施設計画/設計	財団法人海中公園センター
岸本 博	機材計画	システム科学コンサルタンツ株式会社

基本設計調査Ⅱ

氏名	担当	所属
今津 武	総括	国際協力事業団無償資金協力調査部 部長
奥田 直久	技術参与	環境庁自然保護局計画課審査官
下池 和幸	技術参与	阿嘉島臨海研究所
伊藤 富章	計画管理	国際協力事業団無償資金協力調査部 調査第1課課長代理
入江 啓之	無償資金協力	外務省経済協力局無償資金協力課
多紀 保彦	業務主任/運営維持管理計画	システム科学コンサルタンツ株式会社
藤原 秀一	珊瑚礁研究/保全計画	財団法人海中公園センター
富山 保	ビジターセンター 運営計画	システム科学コンサルタンツ株式会社
角永 博	施設計画/設計	財団法人海中公園センター
岸本 博	機材計画	システム科学コンサルタンツ株式会社
関 武秀	積算/調達計画	システム科学コンサルタンツ株式会社

附属資料Ⅱ-1 調査団員氏名所属

基本設計調査 Ⅲ

氏名	担当	所属
熊代 輝義	総括	国際協力事業団無償資金協力調査部 調査第2課課長
堤 俊夫	技術参与	横浜・八景島シーパラダイス アクア ミュージアム顧問
渡辺真樹子	計画管理	国際協力事業団派遣事業部派遣第2課
角永 博	施設計画/設計	財団法人海中公園センター
石原 堅次	珊瑚礁研究	財団法人海中公園センター

基本設計概要説明調査

氏名	担当	所属
今津 武	総括	国際協力事業団無償資金協力調査部 部長
濱田 隆士	技術参与	放送大学教授
他谷 康	技術参与	海洋科学技術センター総務部普及・ 広報課課長代理
渡辺真樹子	計画管理	国際協力事業団派遣事業部派遣第2課
多紀 保彦	業務主任/運営維持管理計画	システム科学コンサルタンツ株式会社
富山 保	ビジターセンター 運営計画	システム科学コンサルタンツ株式会社
角永 博	施設計画/設計	財団法人海中公園センター
石原 堅次	展示デザイン	システム科学コンサルタンツ株式会社

附属資料Ⅱ-2 調査日程

基本設計調査Ⅰ

順目	日付	内容
	1997年	
1	11月8日 土	東京→グアム、アガナ総領事館表敬
2	9日 日	グアム-コロール Mドック調査、JICA パラオ駐在員事務所打ち合わせ
3	10日 月	副大統領府表敬
4	11日 火	ミニッツ協議 (TWG)
5	12日 水	ミニッツ協議 (TWG)
6	13日 木	ミニッツ署名、団長帰国
7	14日 金	サイト調査、サンゴ礁調査
8	15日 土	サイト調査
9	16日 日	団内打ち合わせ、データ整理
10	17日 月	海域調査、協議・調査 (PCS、TNC、米国大使館)、建築関連調査
11	18日 火	協議・調査 (PMDC、PVA、CRRF、PCC)、インフラ調査
12	19日 水	計画内容協議 (TWG)
13	20日 木	計画内容協議 (TWG ほか)
14	21日 金	協議 (PCC、CIP、PPUC)
15	22日 土	団内協議、建築関連調査
16	23日 日	資料解析・整理
17	24日 月	協議 (MORD)、
18	25日 火	協議 (TWG、コロール州政府)
19	26日 水	海水サンプル採水、JICA パラオ駐在員事務所報告、パラオ→グアム
20	27日 木	グアム→東京

附属資料Ⅱ-2 調査日程

基本設計調査Ⅱ

順目	日付	内容
1998年		
1	4月7日 火	東京→グアム（施設計画、機材計画担当団員グアム→コロール）
2	8日 水	グアム大学海洋研究所訪問、日米協議
3	9日 木	日米協議、グアム→コロール
4	10日 金	JICA パラオ駐在員事務所打ち合わせ、協議（TWG・米側）
5	11日 土	サイト調査
6	12日 日	団内打ち合わせ、データ解析
7	13日 月	インテリムレポート協議（TWG・米側）
8	14日 火	ミニッツ協議（TWG・米側）、ミニッツ署名
9	15日 水	サイト調査、海域調査、団内協議、団長帰国
10	16日 木	運営管理組織・施設機材計画協議（TWG・米側）
11	17日 金	サイト周辺調査、官団員帰国
12	18日 土	海域調査、自記水温塩分計設置、データ解析
13	19日 日	データ解析、資料整理
14	20日 月	運営管理計画協議（TWG・米側）、サイト周辺調査
15	21日 火	施設機材計画協議（TWG・米側）
16	22日 水	海域調査、調達状況調査のため積算調達計画担当団員コロール→グアム
17	23日 木	施設機材計画協議（TWG・米側）、サイト周辺調査
18	24日 金	サイト周辺調査、パラオ・米側と協議のまとめ
19	25日 土	サイト周辺調査、資料収集
20	26日 日	データ解析、積算調達計画担当団員グアム→東京
21	27日 月	展示方針協議（TWG）、サイト周辺調査
22	28日 火	施設機材計画協議（TWG）
23	29日 水	海域調査、海水サンプル採水、研修計画協議（TWG）
24	30日 木	サイト周辺調査、資料収集
25	5月 1日 金	コロール→グアム→東京

附属資料Ⅱ-2 調査日程

基本設計調査Ⅲ

順目	日付	内容
1998年		
1	6月5日 日	東京→グアム→コロール
2	6日 月	JICA パラオ駐在員事務所打ち合わせ、副大統領府表敬、 サイト周辺調査
3	7日 火	PCS において展示についてのワークショップ
4	8日 水	同上
5	9日 木	(憲法記念日) 団内会議
6	10日 金	協議・メモランダム署名 (副大統領)
7	11日 土	コロール→グアム→東京

基本設計概要説明

順目	日付	内容
1998年		
1	10月15日 木	東京→グアム、アガナ総領事館表敬、グアム→コロール
2	16日 金	JICA パラオ駐在員事務所打ち合わせ、副大統領府表敬、 DF/R 説明・協議 (TWG)
3	17日 土	サイト調査
4	18日 日	団内会議
5	19日 月	DF/R・ミニッツ協議 (TWG)
6	20日 火	国会議員に対し DF/R 説明、ミニッツ署名
7	21日 水	コロール→グアム
8	22日 木	アガナ総領事館報告、グアム→東京

附属資料Ⅱ-3 関係者リスト

日本側

技術検討委員会

濱田 隆士	放送大学 教授； 神奈川県立生命の星博物館 館長
糸賀 黎	長野県自然保護研究所 総括研究員
西平 守孝	東北大学理学部生物学科 教授
大森 信	東京水産大学資源育成学科 教授
茅根 創	東京大学大学院理学研究科 助教授
横地 洋之	東海大学海洋研究所 助教授
志村 茂	JICA 国際協力総合研究所 国際協力専門員

アガナ総領事館

山岸 進	総領事
高島 正幸	領事

JICA/JOCV

草野 忠征	JOCV 事務所 所長
赤津 澄人	水産専門家

パラオ側

Technical Working Group on the Coral Reef Research Center (TWG)

Mr. Tommy E. Remengesau, Jr.	Vice-President of ROP and Chairman of TWG
Dr. Minoru F. Ueki	Palau Chamber of Commerce and Vice-Chairman of TWG
Ms. Judy Dean	Office of the Vice-President
Mr. Demei Otobed	Bureau of Natural Resources and Development
Mr. Andres Uherbelau	Ministry of State
Mr. Emil Ramarui	Ministry of Education
Mr. Alonz Joseph	Ministry of Commerce and Trade
Mr. Lucio Abraham	Environmental Quality Protection Board
Mr. Itaru Kishigawa	Palau Visitors Authority
Mr. Hideo Rdialull	Palau Fishing Authority/PFFA
Mr. Ben Roberto	The Senate-OEK
Mr. Adalbert Eleldui	Koror State Government
Mr. Elia Yobech	Palau Sports Fishing Association

附属資料Ⅱ-3 関係者リスト

Mr. Noah Idechong Palau Conservation Society
Ms. Carol Emaurois Palau Community College
Mr. John Vogt Technical Advisor

Office of the President

Mr. Belhaim Sakuma Planning Officer
Mr. Koichi Wong National Planer

Ministry of Resources and Development

Mr. Marcelino Melairei Minister

Ministry of Community and Cultural Affairs

Mr. Alexander Merep Minister

Ministry of Education

Mr. Emill Ramarui Chief, Division of School Management

Congress (OEK)

Mr. Haruo Esang Senate Vice-President
Ms. Sandra Pierantozzi Member of the Senate
Mr. Thomas Patris Member of the House of Delegates

Capital Improvement Program

Mr. Masasinge Arurang Manager, Bureau of Public Works

Environmental Quality Protection Board

Mr. Donald Dengoki
Ms. Pearl L. Marumoto Environmental Educator

Palau Visitors Authority

Ms. Mary Ann Delemel Managing Director

Belau National Museum

Ms. Faustina Rehuher-Marugg Director/Curator
Ms. Olympia Morei Manager

Palau Community College

Mr. Stanley E. Welch Vice-President of Administration

附属資料Ⅱ-3 関係者リスト

Mr. Yimnane Golbuu	Researcher
Mr. Kevin Polloi	Researcher
Ms. Jane Barnwell	Librarian

Palau Mariculture Demonstration Center

Mr. Obichang Orak	Manager,
-------------------	----------

Coral Reef Research Foundation

Dr. Patric L. Colin	President
Ms. Lorita Penland	Researcher

Other Persons Contacted

Mr. Marcy Andrews	Office of the Vice-President
Mr. Gustar Aitaw	Ministry of State
Mr. Emil Ramaui	Chief, Elementary Division, Ministry of Education
Ms. Kara Assanakis	Biologist, Melekau Environmental, Inc.
Ms. Ann Kitalong	Biologist, The Environment, Inc.
Ms. Mandy Episton	Artist/Writer

アメリカ側

Embassy of USA in Palau

Mr. Gerard R. F. Pascua	Ex-Charge d'Affaires ad Interim
Ms. Gail Gardener	Charge-Affaires
Mr. Allen Nugent	Ex-Charge d'Affaires ad Interim

U.S. Department of Interior

Mr. J. Victor Hobson, Jr.	FAS Federal Program Coordinator, Micronesia, Palau FSM and Marshall Islands
---------------------------	--

The Nature Conservancy

Ms. Lori A. Forman	Director, Japan Program
Dr. Andrew J. Smith	Palu Field Office

Waikiki Aquarium

Mr. Russell Kuroda	Business Manager
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University of Guam

Dr. Robert H. Richmond	Professor, Marine Laboratory
Dr. Gustav Pauly	Professor, Marine Laboratory

MINUTES OF DISCUSSIONS
BASIC DESIGN STUDY
ON THE PROJECT FOR ESTABLISHMENT
OF PALAU INTERNATIONAL CORAL REEF CENTER


Based on the results of the Preliminary Study, Japan International Cooperation Agency (hereinafter referred to as "JICA") decided to conduct a Basic Design Study on the Project for Establishment of Palau International Coral Reef Center (hereinafter referred to as "the Project") in the Republic of Palau.

JICA sent to the Republic of Palau a study team (hereinafter referred to as "the Team"), which was headed by Mr. Takeshi YAGI, Director, Grant Aid Division, Economic Cooperation Bureau, Ministry of Foreign Affairs and was scheduled to stay in the country from November 9 to 26, 1997.

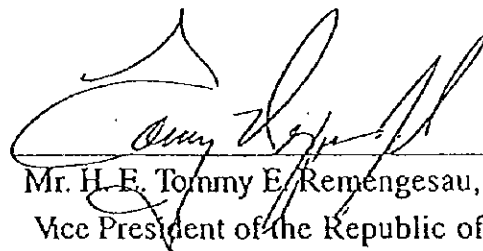
The Team held discussions with the officials concerned of the Republic of Palau and conducted a field survey at the study area.

In the course of the discussions and the field survey, the authorities concerned of the Republic of Palau and the Team confirmed the main items described in the attached sheets. The Team will proceed to further studies and prepare an interim report.

Koror, November 13, 1997



Mr. Takeshi YAGI
Leader
Basic Design Study Team,
JICA



Mr. H. E. Tommy E. Remengesau, Jr.
Vice President of the Republic of Palau,
Chairman of Technical Working Group
on the Coral Reef Research Center Project

ATTACHMENT

1. Objective

The objective of the Project is to establish the Palau International Coral Reef Center (hereinafter referred to as "the Center") for research, education, training and public awareness toward the conservation of coral reef ecosystem in Palau.

2. Project site

The project site is M-Dock, Koror Island, as shown in ANNEX I.

3. Executing Organization

(1) Responsible organization

Technical Working Group on the Coral Reef Research Center Project chaired by Vice President.

(2) Implementing organization

Technical Working Group on the Coral Reef Research Center Project chaired by Vice President, in cooperation with Bureau of Public Works, Ministry of Resources and Development at the construction stage.

4. Items requested by the Republic of Palau

The components of the Project will be specified based on the research, education, training, and public awareness plan, after further studies.

5. Japan's Grant Aid System

(1) The Government of the Republic of Palau has understood Japan's Grant Aid system in ANNEX II as explained by the Team.

(2) The Government of the Republic of Palau will take necessary measures described in ANNEX III for the smooth implementation of the Project, in the event the Grant Aid Assistance by the Japanese Government is extended to the Project.

6. Major Points of Discussions

(1) Activities in the Center

1) The Team indicated that the task of the Center is to conduct research and public awareness/education activities pertaining to the conservation of coral reef ecosystem and contributing to the sustainable development of the Republic of Palau. The Team

showed examples of subjects of research and public awareness/education activities as shown in ANNEX IV. The Palauan side stated that it agreed basically with the subjects, but would like to see aquaculture included in the list. The Japanese side indicated that inclusion of aquaculture would require careful consideration. The Palauan side also stated that it would make further studies on the subjects.

- 2) Both sides shared the view that the Center should coordinate with other institutions and organizations engaged in coral reef studies / conservation in and outside the Republic of Palau, whereby taking into account, in particular, the importance of the Center's participation in the activities of the International Coral Reef Initiative.

(2) Operation and management

- 1) The Team explained the plan on a) the composition and the number of the staff of the Center and b) the components and the scale of the facilities of the Center, as an option based upon preliminary estimate, and the Palauan side stated that while basically agreeing with the thinking underlying the plan, they would make further studies on it.
- 2) The Team explained, also as an alternative based upon preliminary preparatory works, that the annual operational expenditure of the Center was estimated at between US\$400,000 and 1,000,000. While the Center is expected to generate some income, the Palauan side committed to provide full financial measures necessary to support the Center during early years of the operation.
- 3) The Palauan side expressed its desire to have a dormitory constructed as a component of the Center, suggesting that operation and management of the dormitory could be more easily accomplished at the Palau Community College.
- 4) The Team emphasized that the Center should be of a manageable and realistic scale in terms of facilities and equipment, staff and budget in order to be sustainable in the long term. The Palauan side shared this view.

(3) Executing organization

The Team stressed that the implementing agency should be one and the same organization through the cooperation period in order to ensure continuity and smooth communication between both sides. The Palauan side stated that the Technical Working Group on the Coral Reef Research Center Project chaired by Vice President is designated as implementing agency.

The Team also expressed its hope that a key contact person who could deal with

every aspect of the cooperation be assigned for the same reason. The Palauan side stated that it would consider the matter.

(4) Technical assistance

The Team explained that the Japanese side would prepare to consider dispatch of Japanese expert(s) and acceptance of Palauan trainee(s). The Palauan side took note of this with appreciation and requested whether it would be possible to dispatch expert(s) to the Center as advisers at the Director level at the early stage of the cooperation. The Japanese side indicated its readiness to study such a request.

(5) Project site

The Palauan side confirmed that the Koror State Government had agreed with the use of the M-Dock area as the project site and that the existing facilities in the project site would be closed and the site would be cleared before the commencement of the construction.

(6) Dumping site near the M-Dock

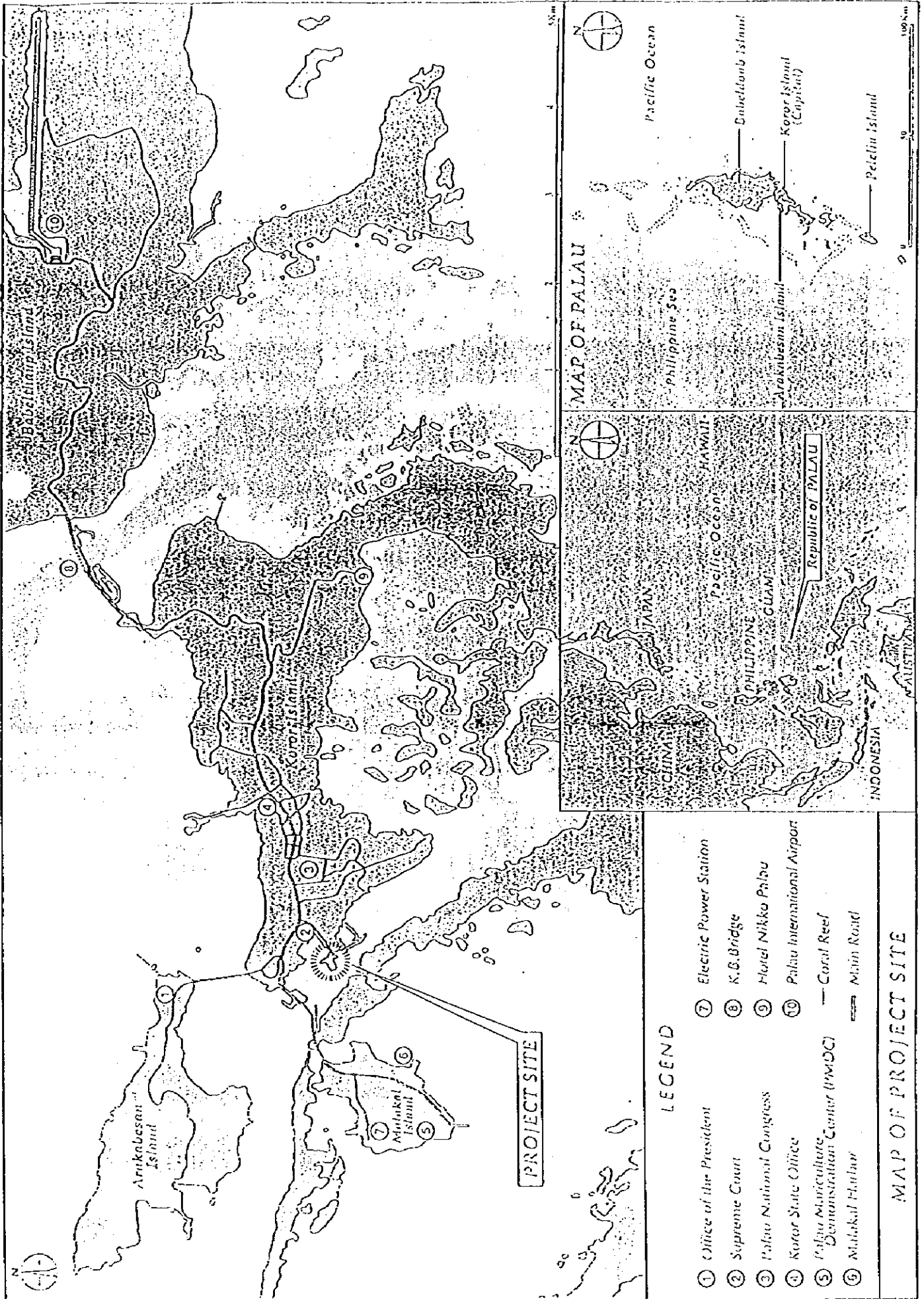
The Palauan side confirmed that the dumping site would be closed and relocated by the Palauan side within four years. It also informed the Japanese side of its intention to submit a request for a shared or cooperative effort to cap the landfill in order that it may be developed as a complementary area such as a park.

(7) The Palauan side requested that appurtenant works such as repairs of embankment, filling and grading of the site, etc. be assisted by the Japanese side.

7. Schedule of the Study

(1) The consultants of the Team will proceed to further studies in the Republic of Palau until November 26, 1997.

(2) JICA will prepare an interim report describing a plan including such elements as activities, facilities and equipment, personnel and operation and management of the Center and will dispatch a mission for the Basic Design Study II toward the end of January, 1998.



LEGEND

- ① Office of the President
- ② Supreme Court
- ③ Palau National Congress
- ④ Koror State Office
- ⑤ Palau Maritime Demonstration Center (PMDC)
- ⑥ Malakal Harbor
- ⑦ Electric Power Station
- ⑧ K.B. Bridge
- ⑨ Hotel Nikko Palau
- ⑩ Palau International Airport
- Coral Reef
- Main Road

MAP OF PROJECT SITE

ANNEX II

Japan's Grant Aid Scheme

1. Grant Aid Procedures

1) Japan's Grant Aid Program is executed through the following procedures.

Application	(Request made by a recipient country)
Study	(Basic Design Study conducted by JICA)
Appraisal & Approval	(Appraisal by the Government of Japan and Approval by Cabinet)
Determination of Implementation	(The Notes exchanged between the Governments of Japan and the recipient country)

2) Firstly, the application or request for a Grant Aid project submitted by a recipient country is examined by the Government of Japan (the Ministry of Foreign Affairs) to determine whether or not it is eligible for Grant Aid. If the request is deemed appropriate, the Government of Japan assigns JICA (Japan International Cooperation Agency) to conduct a study on the request.

Secondly, JICA conducts the study (Basic Design Study), using (a) Japanese consulting firm(s).

Thirdly, the Government of Japan appraises the project to see whether or not it is suitable for Japan's Grant Aid Program, based on the Basic Design Study report prepared by JICA, and the results are then submitted to the Cabinet for approval.

Fourthly, the project, once approved by the Cabinet, becomes official with the Exchange of Notes signed by the Governments of Japan and the recipient country.

Finally, for the implementation of the project, JICA assists the recipient country in such matters as preparing tenders, contracts and so on.

2 Basic Design Study

1) Contents of the Study

The aim of the Basic Design Study (hereafter referred to as "the Study"), conducted by JICA on a requested project (hereafter referred to as "the Project") is to provide a basic document necessary for the appraisal of the Project by the Japanese Government. The contents of the Study are as follows:

- a) Confirmation of the background, objectives, and benefits of the requested Project and also institutional capacity of agencies concerned of the recipient country necessary for the Project's implementation.
- b) Evaluation of the appropriateness of the Project to be implemented under the Grant Aid Scheme from a technical, social and economic point of view.
- c) Confirmation of items agreed on by both parties concerning the basic concept of the Project.
- d) Preparation of a basic design of the Project
- e) Estimation of costs of the Project

The contents of the original request are not necessarily approved in their initial form as the contents of the Grant Aid project. The Basic Design of the Project is confirmed considering the guidelines of Japan's Grant Aid Scheme.

The Government of Japan requests the Government of the recipient country to take whatever measures are necessary to ensure its self-reliance in the implementation of the Project. Such measures must be guaranteed even though they may fall outside of the jurisdiction of the organization in the recipient country actually implementing the Project. Therefore, the implementation of the Project is confirmed by all relevant organizations of the recipient country through the Minutes of Discussions.

2) Selection of Consultants

For smooth implementation of the Study, JICA uses (a) registered consultant firm(s). JICA select (a) firms(s) based on proposals submitted by interested firms. The firm(s) selected carry(ies) out a Basic Design Study and write(s) a report, based upon terms of reference set by JICA.

The consulting firm(s) used for the Study is(are) recommended by JICA to the recipient country to also work on the Project's implementation after the Exchange of Notes, in order to maintain technical consistency and also to avoid any undue delay in implementation should the selection process be repeated.

3. Japan's Grant Aid Scheme

1) What is Grant Aid?

The Grant Aid Program provides a recipient country with non-reimbursable funds to procure the facilities, equipment and services (engineering services and transportation of the products, etc.) for economic and social development of the country under principles in accordance with the relevant laws and regulations of Japan. Grant Aid is not supplied through the donation of materials as such.

2) Exchange of Notes (E/N)

Japan's Grant Aid is extended in accordance with the Notes exchanged by the two Governments concerned, in which the objectives of the Project, period of execution, conditions and amount of the Grant Aid, etc., are confirmed.

3) "The period of the Grant Aid" means the one fiscal year which the Cabinet approves the Project for. Within the fiscal year, all procedures such as exchanging of the Notes, concluding contracts with (a) consultant firm(s) and (a) contractor(s) and final payment to them must be completed.

However in case of delays in delivery, installation or construction due to unforeseen factors such as weather, the period of the Grant Aid can be further extended for a maximum of one fiscal year at most by mutual agreement between the two Governments.

- 4) Under the Grant Aid, in principle, Japanese products and services including transport or those of the recipient country are to be purchased.

When the two Governments deem it necessary, the Grant Aid may be used for the purchase of the products or services of a third country.

However the prime contractors, namely, consulting constructing and procurement firms, are limited to "Japanese nationals". (The term "Japanese nationals" means persons of Japanese nationality or Japanese corporations controlled by persons of Japanese nationality.)

- 5) Necessity of "Verification"

The Government of recipient country or its designated authority will conclude contracts denominated in Japanese yen with Japanese nationals. Those contracts shall be verified by the Government of Japan. This "Verification" is deemed necessary to secure accountability to Japanese taxpayers.

- 6) Undertakings required of the Government of the Recipient Country

In the implementation of the Grant Aid project, the recipient country is required to undertake such necessary measures as the following:

(1) To secure land necessary for the sites of the Project and to clear, level and reclaim the land prior to commencement of the construction.

(2) To provide facilities for the distribution of electricity, water supply and drainage and other incidental facilities in and around the sites.

(3) To secure buildings prior to the procurement in case the installation of the equipment.

(4) To ensure all the expenses and prompt execution for unloading, customs clearance at the port of disembarkation and internal transportation of the products purchased under the Grant Aid.

(5) To exempt Japanese nationals from customs duties, internal taxes and other fiscal levies which will be imposed in the recipient country with

respect to the supply of the products and services under the Verified Contracts.

(6) To accord Japanese nationals whose services may be required in connection with the supply of the products and services under the Verified contracts, such facilities as may be necessary for their entry into the recipient country and stay therein for the performance of their work.

(7) "Proper Use"

The recipient country is required to maintain and use the facilities constructed and equipment purchased under the Grant Aid properly and effectively and to assign staff necessary for this operation and maintenance as well as to bear all the expenses other than those covered by the Grant Aid.

(8) "Re-export"

The products purchased under the Grant Aid should not be re-exported from the recipient country.

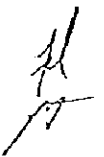
(9) Banking Arrangements (B/A)

- a) The Government of the recipient country or its designated authority should open an account in the name of the Government of the recipient country in an authorized foreign exchange bank in Japan (hereinafter referred to as "the Bank"). The Government of Japan will execute the Grant Aid by making payments in Japanese yen to cover the obligations incurred by the Government of the recipient country or its designated authority under the Verified Contracts.
- b) The payments will be made when payment requests are presented by the Bank to the Government of Japan under an authorization to pay issued by the Government of the recipient country or its designated authority.

ANNEX III

Necessary measures to be taken by the Republic of Palau on condition that Japan's Grant Aid is executed;

1. To secure land necessary for sites of the Project, prior to the construction of the facilities.
2. To ensure all expenses and prompt execution for unloading, customs clearance at the port/airport of disembarkation and internal transportation of the products purchased under the Grand Aid.
3. To exempt Japanese nationals from customs duties, internal taxes and other fiscal levies which will be imposed in the recipient country with respect to the products and services under the verified contract.
4. To accord Japanese nationals, whose services may be required in connection with the supply of products and the services under the verified contracts, such facilities as may be necessary for their entry into the Republic of Palau and stay therein for the execution of the Project.
5. The Republic of Palau is required to maintain and use the facilities constructed under the Grant Aid properly and effectively and to assign staff necessary for this operation and maintenance as well as to bear all the expenses other than those covered by the Grant Aid.
6. The products purchased under the Grant Aid should not be re-exported from the Republic of Palau.
7. To bear advising commission of Authorization to Pay (A/P) and payment commission to a Japanese foreign bank for the banking services based on the banking arrangement.



ANNEX IV

Provisional Plan of Research and Public Awareness/Education Activities

1. Research Activities

(1) Basic concept

The center will conduct researches contributing towards the conservation of Palauan coral reef and its ecosystem based primarily on field surveys and associated laboratory studies.

(2) Research subjects

- 1) Monitoring of fundamental oceanographic data
- 2) Monitoring of coral reef ecosystem
- 3) Biological diversity
- 4) Dynamics of coral community
- 5) Endangered, endemic and/or rare species
- 6) Nature conservation in Palau
- 7) Management of marine protected area

2. Public Awareness/Education Activities

(1) Basic concept

The center will conduct public awareness activities:

- 1) To propagate knowledge of coral reef ecosystem among Palauan citizen and foreign visitors, and have them recognize the importance of coral reef conservation,
- 2) To provide information necessary for the field observation of coral reef, and
- 3) To function as a national and international coordination center for coral reef conservation activities.

(2) Description of activities

- 1) Displays
- 2) Information services
- 3) Interpretation
- 4) Education and capacity building
- 5) Coordination of organizations engaged in coral reef conservation

MINUTES OF DISCUSSIONS
BASIC DESIGN STUDY (II)
ON
THE PROJECT FOR ESTABLISHMENT
OF PALAU INTERNATIONAL CORAL REEF CENTER

In November 1997, the Japan International Cooperation Agency (hereinafter referred to as "JICA") dispatched a Basic Design Study Team I on the Project for Establishment of Palau International Coral Reef Center (hereinafter referred to as "the Project") to the Republic of Palau, and through the discussion, field survey and technical examination of the result in Japan, JICA has prepared interim report of the study.

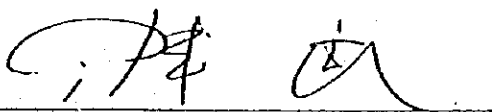
JICA sent to the Republic of Palau a Study Team II (hereinafter referred to as "the Team"), which was headed by Mr. Takeshi Imazu, Management Director, Grant Aid Project Study Department, JICA was scheduled to stay in the country from April 9 to May 1, 1998.

The Team explained about the components of the interim report, held discussions with the officials concerned of the Republic of Palau and conducted a field survey at the study area.

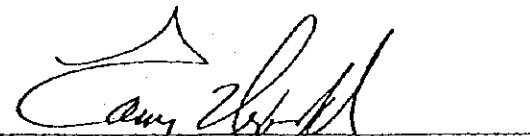
The US Team, headed by Mr. Gerard Russell Fisher Pascua, Charge d'Affaires ad interim of the United States of America, Embassy of the United States of America in the Republic of Palau, attended a series of discussions and gave useful comments and advise to both sides. The US delegation reiterated its strong intention to identify and facilitate securing US sources of financial and technical support for the Project.

In the course of the discussions and the field survey, the concerned authorities of the Republic of Palau and the Team confirmed the main items described in the attached pages. The Team will proceed with further studies and prepare the basic design report.

Koror, April 14, 1998



Mr. Takeshi Imazu
Leader
Basic Design Study Team,
JICA



Mr. H. B. Tommy E. Remengesau, Jr.
Vice President of the Republic of Palau,
Chairman of Technical Working Group
on the Coral Reef Research Center Project

ATTACHMENT

Both sides confirmed that the objective, project site (include preparatory procedures and works) and executing organization of the Project have not been changed from the Minutes of Discussions signed by Mr. H. E. Tommy E. Remengesau, Jr. and Mr. Takeshi Yagi on November 13, 1997 (hereinafter referred to as "the Minutes I") .

1. The components of the Project

The Government of the Republic of Palau accepted in principle the components of the Project as proposed in the interim report.

2. Japan's Grant Aid System

- (1) The Government of the Republic of Palau has understood Japan's Grant Aid system explained by the Team, and has confirmed the necessary measures to be taken by Palau.
- (2) Japan's Grant Aid system and necessary measures mentioned above are ANNEX II and ANNEX III of the Minutes I.

3. Major Points of Discussions

(1) Activities in the Center

1) The Team indicated that the task of the Center is to conduct research and public awareness/education activities pertaining to the conservation of coral reef ecosystems and contributing to the sustainable development of the Republic of Palau.

The Team described possible subjects of research and public awareness/education activities as shown in the interim report and Palauan side agreed to them, subject to further refinement as the management of the Center is developed.

2) Both sides shared the view that aquaculture is excused from the initial phase of this Project with the exception of research on propagation of corals which is included from the beginning.

3) Both sides shared the view that activity as a regional training center will be phased in as the Center develops technical capability and secures necessary budgets.

4) Both sides reconfirmed the importance that the Center's activities be well coordinated with other institutions and organizations engaged in coral reef studies/conservation, such as the Center's possible participation in the activities of the International Coral Reef Initiative.

(2) Operation and management

1) The Team explained their initial thoughts on a) the composition and the number of the staff of the Center and b) the components, the facilities and equipment of the Center, as shown in the interim report. Details regarding these components will be discussed over the next two weeks in tripartite discussions of experts, consultants and Palauan representatives.

2) The Team explained that they estimate annual operational expenditure of the Center between US\$550,000 and US\$1,000,000, and after the center can generate some income, deficit may be US\$140,000 in minimum. Further refinements to the budget figures will be discussed between the consultants, experts and Palauan working group before submission of the next draft report.

Palauan side reiterated its commitment to provide necessary full financial measures necessary to support the Center.

3) The Team emphasized that the Center should be of a manageable and realistic scale in terms of facilities and equipment, staff and budget in order to be sustainable in the long term. The Palauan side shared this view.

(3) Executing organization

1) Both sides confirmed the necessity of the technical advisory committee. The organization and management of the committee will be discussed, and reflected in the incorporating legislation for the Center.

2) The Team encourages the designation of a key contact person to coordinate Palauan-Japan communication on the Project, as soon as possible.

(4) Technical assistance

1) The Team explained the necessity of technical assistance for successful implementation of the Project. Palau will develop a training plan based on staff development needs and submit to Japan and US. Japan, US expressed their willingness to develop training to meet these needs.

2) The Government of the Republic of Palau will undertake the necessary procedures to request the technical assistance under mutual consultation with the JICA.

(5) Dumping site near the M-Dock

The Team confirmed the Palauan side is proceeding with the necessary measures to close and relocate the dumping site as described on the Minutes I.

4. Schedule of the Study

- (1) The consultants of the Team will proceed to further studies in the Republic of Palau until May 1, 1998.
- (2) JICA will prepare the draft report in English and dispatch a mission in order to explain its contents around June, 1998. A copy will also be provided to the US government under the spirit of the Common Agenda.
- (3) In the case that the contents of the draft report is accepted in principle by the Palauan side, JICA will complete the final report and send it to the Government of the Republic of Palau by October, 1998.



10

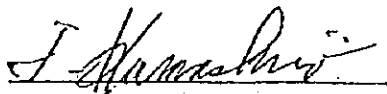
MEMORANDUM
OF
BASIC DESIGN STUDY (III)
ON
THE PROJECT FOR ESTABLISHMENT OF
PALAU INTERNATIONAL CORAL REEF CENTER

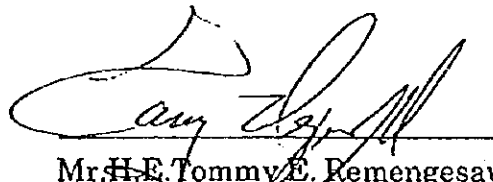
JICA sent a Basic Design Study Team III (hereinafter referred to as "the Team"), which was headed by Mr. Teruyoshi Kumashiro, Director, Second Project Study Division, Grant Aid Project Study Department to the Republic of Palau from July 5 to July 11, 1998.

The Team was sent to discuss specifically on the contents of the Visitor Center which is a part of Palau International Coral Reef Center with the Technical Working Group and the people who were invited by members of the Technical Working Group together with the participation from Embassy of the United States of America in the Republic of Palau. (Attendants of the workshop are as listed in Annex I.)

As a result of the tripartite workshop, the Team and the Technical Working Group came to a mutual understanding on the items described in the attached pages.

Koror, July 10, 1998


Mr. Teruyoshi Kumashiro
Leader,
Basic Design Study Team
JICA


Mr. H.E. Tommy E. Remengesau, Jr.
Vice President of the Republic of Palau
Chairman of Technical Working Group
on the Coral Reef Research Center Project

ATTACHMENT

1. Ideas described in Annex II were raised as items to be taken into consideration when planning the exhibition of the Visitor Center.
2. There have been 4 themes discussed which would be the basic concept of the exhibition and they are:
 - (1) Introduction of Marine Bio-diversity
 - (2) Relationship of Marine Bio-diversity and the People
 - (3) Coral Reef Science
 - (4) Importance of Conservation
3. Among the 4 themes, theme 1 "Introduction of Marine Bio-diversity" will be a major part in the exhibition.
4. As for theme 2 "Relationship of Marine Bio-diversity and the People", the concept will be shown within the display of each habitat in theme 1.
5. As for theme 4 "Importance of Conservation", part of the concept which is deeply related with each habitat of the marine bio-diversity will be shown within the display of each habitat, as well as having an independent section to focus on the over-all message of conservation.
6. Taking the above mentioned details into consideration, the exhibition scenario will be as shown in Annex III.
7. To actualize the concept of theme 1, adoption of biotope exhibition and outdoor exhibition will be taken into consideration.
8. To actualize theme 2, the Technical Working Group provided the Team with background information of relationships between each habitat and people, and the exhibition will be planned by Japanese side, considering the given information.

9. To actualize theme 3 and 4, Japanese side will think of the exhibition, considering the ideas raised and the limitations of construction cost and space.

10. The exhibition plan will be carefully developed by Japanese side taking into consideration the discussion of the workshop together with the operation/maintenance and the limitations of construction cost and space.

11. It was agreed that the sub-committee of the Technical Working Group will gather more detailed information on the ideas raised and will forward the information directly to the consultants as soon as possible.

ATTENDANTS LIST 07/07/98 at PCS

NAME	TITLE	ORGANIZATION
Dr.Minoru Ueki	Vice Chairman	Palau Chamber of Commerce
Mr.Adalbert Eledui	Director	State of Koror
Ms.Carol Emaurois	Coordinator	Palau Community College, Science Center
Mr.Kevin Polloi	Marine Extension Agent	Palau Community College
Ms.Judy Dean	Special Assistant	Vice President's Office, ROP
Mr.Jon Vogt	Principal	Melekau Environmental
Ms.Gail Gardener	Charge d'Affaires	U.S.Embassy
Mr.Alexander Merep	Minister	Ministry of Community and Cultrual Affairs
Mr.Emill Ramaui	Chief	Ministry of Education, Elementary Division
Mr.Thomas Patris	Congressman	OEK, House of Delegates
Ms.Faustina Rehuher	Director	Belau National Museum
Ms.Olympia morei	Manager	Belau National Museum
Dr.Patrick Colin	President	Coral Reef Research Foundation
Ms.Kara Assanakis	Biologist	Melekau Environmental
Ms.Mendy Eptison	Artist, Writer	Private Museum
Mr.Teruyoshi Kumashiro		JICA
Mr.Toshio Tsutsumi		Hakkeijima Aquarium
Mr.Kenji Ishihara		SSC
Mr.Hiroshi Suminaga		Marine Parks Center of Japan
Mr.Hideto Yasui		SSC
Ms.Makiko Watanabe		JICA

ATTENDANTS LIST 08/07/98 at PCS

NAME	TITLE	ORGANIZATION
Mr.Noah Idechong	Executive Director	Palau Conservation Society
Mr.Adalbert Eledui	Director	State of Koror
Ms.Carol Emaurois	Coordinator	Palau Community College, Science Center
Mr. Kevin Polloi	Marine Extension Agent	Palau Community College
Ms. Judy Dean	Special Assistant	Vice. President's Office, ROP
Mr. Jon Vogt	Principal	Melekau Environmental
Ms. Gail Gardener	Charge d'Affaires	U.S. Embassy
Mr. Belhaim Sakuma	Planning Official	President Office
Dr. Patrick Colin	President	Coral Reef Research Foundation
Ms. Kara Assanakis	Biologist	Melekau Environmental
Ms. Ann Kitalong	Biologist	The Environment Inc. (Private)
Mr. Teruyoshi Kumashiro		JICA
Mr. Toshio Tsutsumi		Hakkeijima Aquarium
Mr. Kenji Ishihara		SSC
Mr. Hiroshi Suminaga		Marine Parks Center of Japan
Mr. Hideto Yasui		SSC
Ms. Makiko Watanabe		JICA

THEME	SUB-THEME	ITEM/CONTENTS
1. Introduction of marine bio-diversity	Mangrove	mudskipper, mangrove crab, fiddler crab, salt water shrimp
	Seagrass beds	seaurchin, seagrass, dugong, holothuria, sea anemones, bivalves, turtles
2. relationship of marine bio-diversity + people	Inner reef	giant clam, cuttlefish, lobster, unicorn fish, red snapper, grouper, trochus, sea snake, humphead wrasse, squid, octopus, sardines, sweet dips, sting rays, giant parrot fish
	reef crest	giant clam
	Outer reef	
	marine lakes	jelly fish

* To actualize the concept of theme 1, adoption of biotope exhibition with an effective use of outdoor exhibition and graphic panels (explanations, photographs and illustrations included) will be taken into consideration.

* To actualize the concept of theme 2, exhibition of samples and use of graphic panels will be taken into consideration in accordance with the background information of relationships between each habitat and the people.

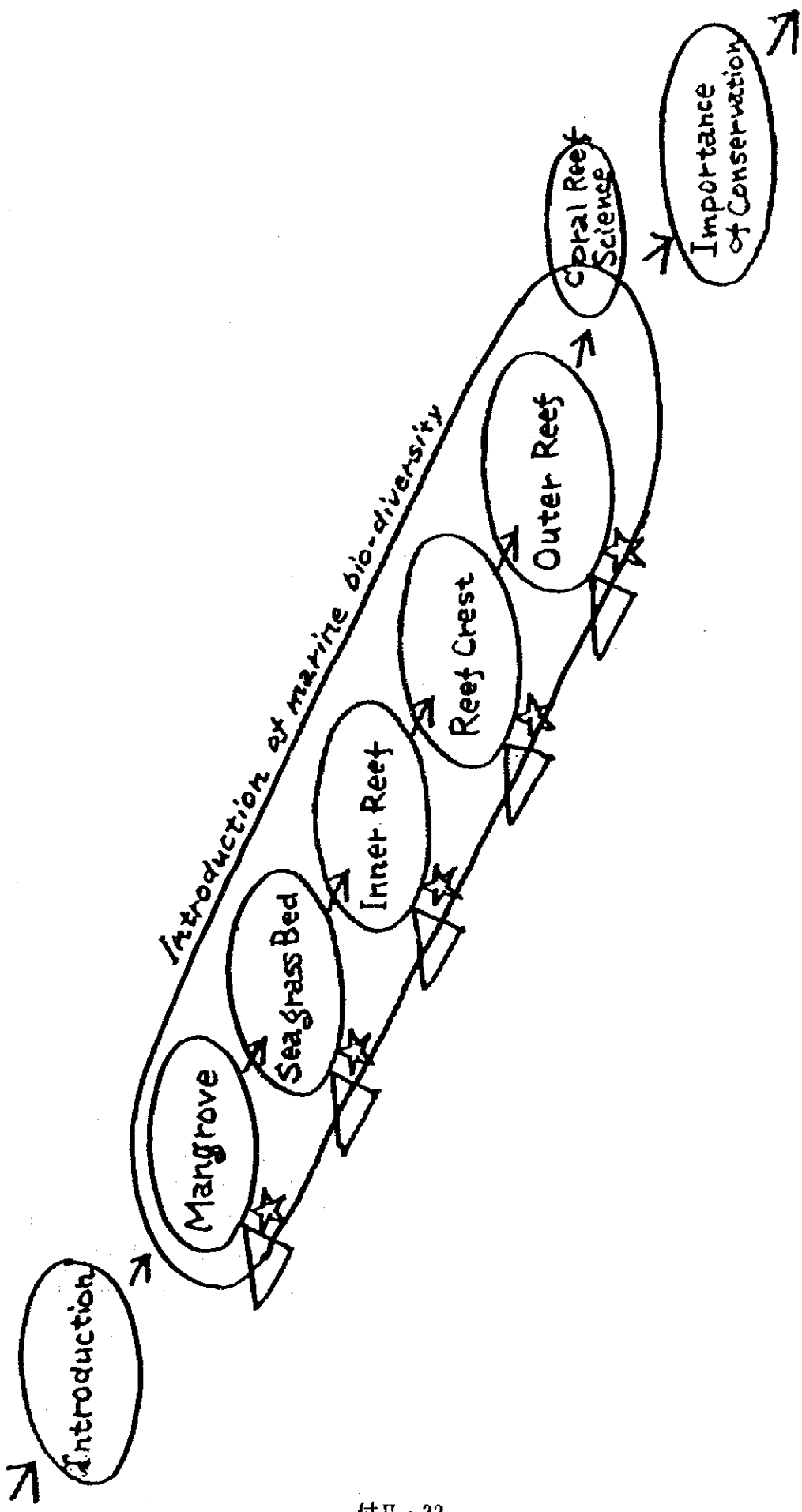
THEME	SUB-THEME	ITEM/CONTENTS
3. Coral reef science	coral biology - coral growth - coral destination - coral reproduction - coral environment limits-conditions symbiotic relations coral reef geology	cleaner wrasse, sharks, manta zooxanthellae, clams, corals, gobles, shrimps commensalism anemonefish/anemone zooxanthellae/animal symbiosis fossil coral reefs "Rock Islands"

* To actualize the concept of theme 3, exhibition using aquaria, graphic panels and specimen will be taken into consideration.

THEME	SUB-THEME	ITEM/CONTENTS
4. Importance of Conservation	global importance	endemic+unique resources → could be included in other themes damage to coral by human interactions
	food economy	food(protein) lime(AUS) tourism development cultural resources souvenirs dredging use of corals water/air pollution construction materials deforestation(sediment erosion) destructive fishing method overuse overfishing overharvesting natural phenomenon aesthetics limited resources "BUL" moratorium

* To actualize the concept of theme 4, effective use of multi-media, graphic panels and leaflets will be taken into consideration.

Exhibition Scenario



△ : Relationship of marine bio-diversity and people
 ☆ : Conservation

MINUTES OF DISCUSSIONS

BASIC DESIGN STUDY ON THE PROJECT FOR ESTABLISHMENT OF PALAU INTERNATIONAL CORAL REEF CENTER (CONSULTATION ON DRAFT REPORT)

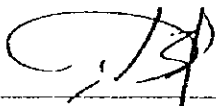
In November 1997, April and July 1998, the Japan International Cooperation Agency (hereinafter referred to as "JICA") dispatched Basic Design Study teams on the Project for Establishment of Palau International Coral Reef Center (hereinafter referred to as "the Project") to the Republic of Palau, and through discussions, field survey and technical examination in Japan, has prepared the draft report of the study.

In order to explain and consult the Palauan side on the components of the draft report, JICA sent to the Republic of Palau a study team (hereinafter referred to as "the Team"), which was headed by Mr. Takeshi Imazu, Managing Director, Grant Aid Project Study Department, JICA, with a schedule to stay in the country from 15 to 21 October, 1998.

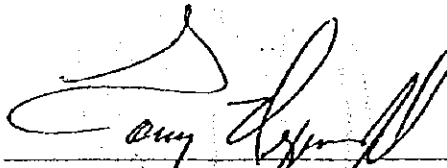
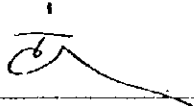
Mr. Allen Nugent, the Charge d'Affaires ad interim of the United States of America, Embassy of the United States of America in the Republic of Palau attended a series of discussion as a partner of the tripartite project, and understood the contents of the draft report concerning the Project. He expressed the U.S. Government's intention to keep a close relationship with and extend support for the Project which is progressing under the U.S. - Japan Common Agenda.

As a result of the discussion, both Palauan and Japanese parties confirmed the main items described on the attached sheets.

Koror, October 20, 1998



Mr. Takeshi Imazu
Leader
Basic Design Study Team,
JICA



Mr. Tommy E. Remengesau, Jr.
Vice President of the Republic of Palau,
Chairman of Technical Working Group
on the Coral Reef Research Center Project

ATTACHMENT

1. Components of the Draft Report

The Government of the Republic of Palau has agreed and accepted in principle the components of the draft report submitted by the Team.

2. Japan's Grant Aid System

- (1) The Government of the Republic of Palau has understood Japan's Grant Aid system as explained by the previous teams and described in the attached sheet of the Minutes dated November 13, 1997.
- (2) The Government of the Republic of Palau will take necessary measures described in ANNEX I for the smooth implementation of the Project, in the event the Grant Aid Assistance by the Japanese Government is extended to the Project.

3. Further Studies

The Team will make the final report in accordance with the confirmed items, and send it to the Government of the Republic of Palau by the end of January, 1999. At the same time, a copy will be sent to the Government of the United States.

4. Major Points of Discussions

- (1) The Team explained necessary undertakings that should be done before the opening of the Center based on "PICRC OPERATION PLAN" in Annex II and strongly requested the Government of the Republic of Palau to commence the necessary undertakings as soon as possible. The Palauan side understood the request and expressed its intention to make effort. The U.S. side and the Team expressed their intentions to support the above mentioned undertakings taken by the Palauan side through possible Technical Cooperation programs provided by both Governments.
- (2) The Team explained that it was crucial for the Palauan side to establish an organization based on the legislation for PICRC and assign the key staff such as the Director and the Curator by the beginning of next year provided that Japan's Grant Aid Assistance will extend in this fiscal year. The Palauan side understood the importance and expressed strong intention to take necessary measures as soon as possible.

ANNEX I

Necessary measures to be taken by the Republic of Palau on condition that Japan's Grant Aid is executed;

1. To secure and prepare land necessary for sites of the Project in an appropriate state, prior to the construction of the facilities.
2. To ensure all expenses and prompt execution for unloading, customs clearance at the port/airport of disembarkation of the products purchased under the Grand Aid.
3. To exempt Japanese nationals from customs duties, internal taxes and other fiscal levies which will be imposed in the recipient country with respect to the products and services under the verified contract.
4. To accord Japanese nationals, whose services may be required in connection with the supply of products and the services under the verified contracts, such facilitation as may be necessary for their entry into the Republic of Palau and stay therein for the execution of the Project.
5. The Republic of Palau is required to maintain and use the facilities constructed under the Grant Aid properly and effectively and to assign staff necessary for this operation and maintenance.
6. To complete the obligations concerning the construction work mentioned in the draft report (P.103) in designated period for smooth implementation of the Project.
7. To bear advising commission of Authorization to Pay (A/P) and payment commission to a Japanese foreign bank for the banking services based on the banking arrangement.
8. To permit the collection of materials for exhibits and/or to provide exhibit materials such as living organisms, plants, rocks and so on. The cost of the collection/transportation of the exhibit materials will be covered under the Grant Aid.

PICRC OPERATION PLAN
 *This plan lists out the necessary undertakings to operate the center effectively from the opening day.

MONTH	0	1	3	5	7	9	11	13	15	17	19	21	23	25	27	29	31	33	35	
1. CONSTRUCTION E/N D/D and Construction Hand-over Opening		▲																		
2. ORGANIZATION DEVELOPMENT 1) Fundamental premises -Approval of Act for PIRC -Appointment of Board/Confirmation by the Senate -Clearance of the project site	▲	▲																		
2) Development of activity plans -Determination of the concept of the Center -Development of long/mid-term plan (10yrs) -Development of short-term plan (5yrs) -Development of yearly activity plan																				
3) Budget -Calculation of pre-open costs -Calculation of running costs per year -Simulation of yearly revenue/expenditure -Budget request -Budget approval																				
4) Organization -Development of job description -Determination of organization chart -Determination of actual staffing -Determination of salaries -Recruitment of staff -Determination of detailed hiring contract -Determination of corporate regulations -Provision of office space and supplies																				
5) Visitor Center -Exploitation of giftshop products -Provision of giftshop products -Determination of contents of exhibition -Determination of exhibit displays -Collection of display materials -Collection of live organisms and breeding -Selection/Determination of temporary breeding facilities (before opening)																				
6) Research Center -Collection of related information (es, books)																				
7) Publicity -Determination of the logo mark of the Center -Determination of nick-name and mascot -Preparation of publications -Preparation of advertisements -Development of web sites -Preparation of the Opening Ceremony																				
3. STAFF POSTING (DEADLINES) Director Financial Officer Education Manager/Curator Aquarist Maintenance Supervisor Senior Researcher	▲																			



KUNIWO NAKAMURA

President

REPUBLIC OF PALAU

Office of the President

P.O. Box 100, Koror • Republic of Palau 96940
Phone: (680) 483-2403 / 2541 • Fax: (680) 483-1652

Addendum to EXECUTIVE ORDER NO. 144

Providing for the Extension of the Technical Working Group
on the Coral Reef Research Center Project

WHEREAS, by Executive Order No. 144, a Technical Working Group on the Coral Reef Research Center Project was established consisting of the Vice President as Chairman and representation from the Bureau of Natural Resources and Development, the Ministry of State, the Ministry of Education, the Ministry of Commerce and Trade, the Environmental Quality Protection Board, Palau Visitors Authority, the Palau Fishing Authority, the Palau Federation of Fishing Associations, the OCK, the Koror State Government, the Palau Community College, the Chamber of Commerce, the Palau Sportfishing Association, and Palau Conservation Society; and

WHEREAS, on September 15, 1995, members of the Technical Working Group submitted their draft of a concept paper to serve as a guide for planning and developing of the Palau International Coral Reef Research Center to be a world-class center for research on Palau's coral reef and associated marine environment; and

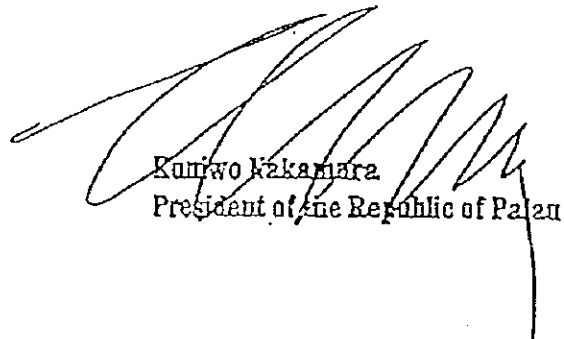
WHEREAS, with the completion of the draft concept paper proposing to establish the Center, it is clear that there remains substantial work to monitor the progress of the Center's development; and

WHEREAS, the composition of the Technical Working Group established through Executive Order No. 144 provides broad representation from both the public and private sectors and includes adequate scientific, educational, and administrative expertise;

NOW, THEREFORE, by virtue of the authority vested in me by the Constitution and laws of the Republic of Palau, it is hereby ordered that the existence of the Technical Working Group established through Executive Order No. 144 under the Chairmanship of the Vice President of Palau shall be extended for the purpose of gathering and analyzing information, proposing legislation, and participating on behalf of the Republic in discussions with foreign governments and others toward the realization of the coral reef research center in Palau.

This Executive Order shall become effective upon issuance and continues in force and effect until such time that the governance of the Palau international Coral Reef Research Center shall be in place unless otherwise superseded or revoked by subsequent executive order or by force of law enacted by the Oibii Era Kelulau.

IN WITNESS WHEREOF, I hereunder set my hand and affix my official seal on this 13th day of November, 1995, at Koror State, Republic of Palau.



Kuniwo Nakamura
President of the Republic of Palau

Executive Order No. 152

RE: The identification of implementing agencies for each stage of the Coral Reef Research Center Project.

WHEREAS, Executive Order No. 144 established a Technical Working Group on the Coral Reef Research Center Project in order to develop a mission statement for the proposed Coral Reef Research Center and to propose the center's management and operational structure; and

WHEREAS, an addendum to Executive Order No. 144 extended the life of the Technical Working Group to be the lead organization to pursue the interests of Palau with respect to the project until such time that the governance of the Center shall be in place; and

WHEREAS, the Technical Working Group consists of broad representation from various relevant agencies and organizations in Palau, both governmental and non-governmental, including the Office of the Vice President/Ministry of Administration (and designating the Vice President to chair the Group), Ministry of Resources and Development, the Ministry of State, the Ministry of Education, the Ministry of Commerce and Trade, the Olbiil Era Kelulau, the Koror State Government, the Environmental Quality Protection Board, Palau Community College, Palau Visitors Authority, Palau Fishing Authority, the Palau Federation of Fishermen's Association, the Palau Boaters Association, the Palau Sports Fishing Association, the Palau Conservation Society and the Chamber of Commerce; and

WHEREAS, the execution of the project further requires that specific agencies within the government of the Republic of Palau be identified to administer and oversee implementation of each phase of the project in order to successfully coordinate the specific stages of the project with the government of Japan; and

WHEREAS, during the joint delegation of the Governments of Japan, the United States and Palau held from February 20-26, 1997, it was decided to officially name the center the Palau International Coral Reef Center;

NOW, THEREFORE, by the authority vested in me as the President of the Republic, pursuant to the Constitution and laws of the Republic of Palau, I do hereby proclaim and order the following:

(1) The Technical Working Group created by Executive Order #144 as organized under the Chairmanship of the Vice President is hereby renamed as the "Coral Reef Planning Council," and, with the administrative support of the Office of the Vice President/Ministry of Administration, shall be the primary agency of the Republic of Palau responsible for the preliminary implementation phase of the Palau International Coral Reef Center Project. The preliminary implementation phase shall conclude when a final commitment to fund and construct the center has been made by the government of Japan. The Vice President/Minister of Administration or his designee shall be the primary contact with the government of Japan during this preliminary implementation phase.

(2) The Ministry of Resources and Development (R & D), reporting to the Vice President as Chairman of the Technical Working Group, shall be the primary agency of the Republic of Palau responsible for the Basic Design Study phase of the Coral Reef Research Center Project. The Minister of R & D shall work closely with the other members of the Technical Working Group for clarification about the goals and objectives of the center as relates to facilities construction and design considerations. The Minister of R & D or his designee shall be the primary contact with the government of Japan during this Basic Design Study phase.

(3) The Ministry of State, reporting to the Vice President as Chairman of the Technical Working Group, shall be the primary agency of the Republic of Palau responsible for the Exchange of Notes (E/N) phase of the Coral Reef Research Center Project. The Minister of State, or his designee, shall be responsible to work closely with the Vice President and with the other members of the Technical Working Group to review the E/N, to brief the President of the Republic of Palau on the details of the Project as outlined in the E/N, and to arrange with the appropriate Japanese officials for the signing of the E/N.

(4) In keeping with his authority as the designated Procurement Office of the Republic of Palau to approve all construction contracts, the Director of Public Works under the Ministry of R & D shall be responsible for tendering and concluding of contracts as outlined in paragraphs 3 and 4 of the E/N. The Director of Public Works shall present the contracts to the Vice President/Chairman of the Technical Working Group for review as to whether: 1) their contents conform to the Group's mission, goals and objectives for the Center, and 2) they are within the guidelines for procurement under the Japanese Grant. Upon such verification by the Vice President of Palau, the contracts, once approved by the Director of Public Works, will be submitted by him through the Vice President to the Minister of State for formal transmission to the Government of Japan.

(5) The Ministry of Administration shall be the primary agency of the Republic of Palau responsible for concluding a banking arrangement with an authorized foreign exchange bank in Japan to open a special account for the purpose of receiving funds granted by the Government of Japan for the Center. The Director of the Bureau of the National Treasury or his designee shall be the primary contact with the government of Japan in developing and executing the banking arrangements. Under the banking arrangement, an Authorization to Pay will be issued through the Ministry of Administration as requested by the Minister of R & D for each verified contract. Every Authorization to Pay will be approved by the Vice President/Minister of Administration in his capacity as Chairman of the Technical Working Group.

(6) The Ministry of R & D shall be the primary agency of the Republic of Palau responsible for the site preparation and construction phases of the Coral Reef Research Center Project. The Minister of R & D or his designee shall be the primary contact with the government of Japan during throughout this phase until completion of the construction of the Center.

(7) The public corporation created to operate the Coral Reef Research Center (as identified by the Memorandum of Understanding of June 7, 1996, between the Olbiil Era Kelulau and the Vice President/Chairman of the Technical Working Group) in the form that it takes under law shall be the primary agency of the Republic of Palau responsible for the

operation of the Coral Reef Research Center. The Chief Executive Officer of the Board of Directors of the Corporation shall be the primary contact with the government of Japan during the follow-up cooperation phase of the project.

IN WITNESS WHEREOF, I have hereunder set my hand and affixed my official seal this _____ day of _____, 1997, the State of Koror, Republic of Palau.

Kuniwo Nakamura
President of the Republic of Palau

附屬資料 II-7 公社設立法案

FIFTH OLBIIL ERA KELULAU

Seventh Special Session, November 1997

Passed
11-21-97
R&D

House Bill No. 5-123-97

A BILL FOR AN ACT

To establish a non-profit public corporation, to be named the Palau International Coral Reef Center, to conduct coral reef and related marine research and education.

THE PEOPLE OF PALAU REPRESENTED IN THE OLBIIL ERA KELULAU DO ENACT AS FOLLOWS:

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Section 1. Short title. This Act may be cited as the "Palau International Coral Reef Center Act of 1997."

Section 2. Legislative purpose. For generations, the coral reefs surrounding the islands of Palau have protected and sustained the people of Palau by providing sheltered harbors, food, building materials, shells for jewelry and utensils, and even betelnut lime. Traditionally, Palau's chiefs have enforced conservation practices in managing the reefs. Recent economic expansion and interaction with regional neighbors and political allies, especially the United States and Japan, however, has led to greater exploitation of the coral reefs for tourism, the harvesting of marine life for food and other products, research into the development of pharmaceuticals, and the gathering of aquarium fishes and invertebrates. As a result of this expanded use of our natural marine resources, some areas of Palau's coral reef system are already severely degraded. This disturbance to our marine environment is critical, because damage to one part of our ecosystem can cause unknown imbalances that upset and negatively impact other areas of our natural environment.

In addition to recognizing the importance of maintaining the quality of the marine environment for Palauan citizens and their children, the Olbiil Era Kelulau recognizes that the Republic is in a position to play an active role in the international and regional community efforts to study, manage and protect the marine environment.

The purpose of this Act is to establish a self-sustaining, non-profit coral reef center and marine park that will provide a forum for coral reef studies, research and education. The Center is designed to assist in improving the management, use and conservation of Palau's and the world's marine environment, in addition to serving as a tourist attraction. In cooperation with Japan, the United States and other countries, the Center will insure that future generations will enjoy the reefs as this and prior generations have.

1 Section 3. Mission statement and objectives. The mission of the Center is to create a
2 self-sustaining center of excellence for marine research, training and education activities. The
3 Center's primary objectives will be to:

4 (a) Carry out research that will enhance the state of knowledge in Palau and the world
5 about coral reef systems (and associated marine environments), and the conservation and
6 management thereof, especially for the Asia/Pacific region;

7 (b) Educate the public about the ecological, economic and cultural importance of coral
8 reefs and their associated marine habitats;

9 (c) Provide facilities to support research, professional training, workshops and
10 conferences in coral reef/marine environment research, sustainable management and related
11 activities;

12 (d) Generate revenues which will be utilized in a manner that allows the Center to
13 become financially self-sustaining over time;

14 (e) Collaborate and exchange information with other coral reef/marine environment
15 research, education, and training institutions and organizations, and disseminate information to
16 the public and to interested individuals and private businesses;

17 (f) Provide information, expertise, assistance and other relevant support to any local
18 government or private agency or non-government organization whose mission requires operating
19 in the marine environment;

20 (g) Establish a training program directed towards integrating sustainable coral
21 reef/marine environment management and tourism, with an emphasis on ecotourism.

22 (h) Collaborate with Palau Community College to develop a marine science and
23 technology certification program, and provide assistance to the College in developing and
24 implementing related programs, especially through its Continuing Education and extension
25 programs;

26 (i) Provide educational resources and assistance for development of marine
27 environment studies programs for the entire Palau education system; and

28 (j) Provide information and technical support to Palau's traditional chiefs in their role
29 of managing the reefs and implementing traditional conservation practices.

30 Section 4. Definitions. As used in this Act:

31 (a) "Board" means the Center's Board of Directors.

32 (b) "Center" means the Palau International Coral Reef Center created by this Act.

- 1 (c) "CEO" means the Chief Executive Officer of the Center.
- 2 (d) "Director" means a member of the Board.
- 3 (e) "Foreign entity" means any person who is not a citizen of the Republic or other
4 legally cognizable entity in which a person who is not a citizen of the Republic owns any interest,
5 and who is not authorized by the Republic to do business in the Republic.
- 6 (f) "Non-profit Public Corporation" means a public corporation which may enter into
7 income-generating activities but is not designed to pay dividends on invested capital nor to fund
8 other public sector activities.
- 9 (g) "President" means the President of the Republic of Palau.
- 10 (h) "Public Corporation" means an autonomous entity wholly-owned by the National
11 Government.
- 12 (i) "Republic" means the Republic of Palau.
- 13 (j) "Technical Working Group" means the Palau Aquarium and Research Center
14 Advisory Group as established by Executive Order No. 144, or its successor.
- 15 Section 5. Establishment of non-profit corporation.
- 16 (a) The Palau International Coral Reef Center is established as a non-profit public
17 corporation (the "Corporation") which shall operate in the form and manner prescribed by this
18 Act.
- 19 (b) The Center shall be subject to the corporate laws of the Republic to the extent such
20 laws do not conflict with this Act or in any manner distort the public character of the
21 corporation.
- 22 (c) The existence of the Center shall be perpetual.
- 23 (d) The Corporation is not organized for profit and shall be strictly limited to scientific,
24 research and educational purposes. The Corporation may not issue any stock. No part of the
25 Corporation's assets, income or earnings may be distributed to any Director, Officer, employee
26 or any private individual, except that reasonable compensation may be paid for services rendered
27 to or for the Corporation. No Director, Officer or employee of the Corporation, or any private
28 individual, may receive any share of the distribution of any of the Corporation's assets on the
29 dissolution of the Corporation. No part of the activities of the Corporation may include (i)
30 carrying on propaganda, (ii) attempting to influence legislation, except that members of the
31 Corporation's Board and personnel of the Corporation may testify or make other appropriate

1 communications where formally requested to do so by a legislative body or a committee or a
2 member thereof in matters concerning legislation relating to the public purposes of the
3 Corporation or public appropriations to programs and activities of the Corporation, or (iii)
4 participating or intervening in (including the publication or distribution of statements), or
5 contributing to, any political campaign on behalf of any candidate for public office. All fees and
6 charges collected and contributions received from public or private donors shall be used by the
7 Corporation for the purposes set forth in this Act.

8 (e) If the corporation is determined to have private foundation status under Section 509
9 of the United States Revenue Code, then:

10 (1) The Corporation shall distribute its proceeds for each taxable year at such
11 time and in such manner as not to become subject to the tax on undistributed income
12 imposed by Section 4942 of the Internal Revenue Code of 1986 or corresponding
13 provisions of any subsequent U. S. Federal tax laws;

14 (2) The Corporation shall not engage in any act of self-dealing as defined in
15 section 494(d) of the U. S. Internal Revenue Code of 1986 or corresponding provisions
16 of any subsequent federal tax laws,

17 (3) The corporation shall not retain any excess business holdings as defined in
18 Section 4943(c) of the Internal Revenue Code of 1986 or corresponding provisions of
19 any subsequent U. S. Federal tax laws,

20 (4) The Corporation shall not make any investments in such manner as to
21 subject it to taxation under Section 4944 of the Internal Revenue Code of 1986 or
22 corresponding provisions of any subsequent U. S. Federal tax laws; and

23 (5) The Corporation shall not make any taxable expenditures as defined in
24 Section 4945(d) of the Internal Revenue Code of 1986 or corresponding provisions of
25 any subsequent U.S. Federal tax laws.

26 (f) Notwithstanding any other provisions of this Act, the Corporation shall not carry on
27 any other activities not permitted to be carried on:

28 (1) by a corporation exempt from U.S. Federal income taxation under Section
29 501(c)(3) of the U. S. Internal Revenue Code of 1986 or the corresponding provision of
30 any subsequent U. S. Federal tax laws; or

1 (2) by a corporation contributions to which are deductible under Section
2 170(c)(2) of the U. S. Internal Revenue Code of 1986 or the corresponding provision of
3 any subsequent U. S. Federal tax laws.

4 Section 6. Corporate status; powers. To achieve the purposes of this Act, the Center
5 shall possess and exercise the following powers through its Board of Directors to:

6 (a) operate and manage the Center and related facilities and marine parks, and to adopt,
7 alter, and use a corporate seal;

8 (b) adopt, amend, and repeal bylaws governing the conduct of its business and the
9 exercise of its authority;

10 (c) sue and be sued in its corporate name;

11 (d) acquire in any lawful manner, real, personal or mixed property, either tangible or
12 intangible, and to hold, maintain, use, sell, lease or otherwise dispose of such property;

13 (e) acquire the business, property, goodwill and liabilities of any other corporation;

14 (f) acquire shares, stocks, mortgages, bonds, obligations, securities and investments of
15 all kinds, foreign and domestic, and to sell or otherwise alienate them;

16 (g) form or to assist in forming any company for the purpose of conducting any business
17 which the Center is authorized to conduct;

18 (h) issue corporate bonds for sale to the general public, other financial institutions or
19 government agencies, upon such terms and conditions as the Board deems necessary and
20 appropriate;

21 (i) make contracts and incur liabilities, to borrow money and to secure any or all of its
22 obligations by mortgage or pledge of any or all of its property;

23 (j) conduct its business, carry on its operations, have offices and exercise the powers
24 granted therein in any state of the Republic or in any foreign country;

25 (k) be registered or recognized in any country, state or place outside the Republic, and
26 to comply with any condition necessary or expedient to enable the Center to conduct business
27 in any such place;

28 (l) act as agent for any other person or entity;

29 (m) subject to other provisions of this Act, appoint the Chief Executive Officer;

30 (n) enter into joint ventures, partnerships and other agreements;

31 (o) participate as owner, partner, shareholder or other interest holder in commercial

- 1 ventures;
- 2 (p) manage or operate commercial projects and enterprises;
- 3 (q) secure from within and from without the Republic financial resources to achieve the
4 purposes of this Act;
- 5 (r) charge reasonable fees for the use and enjoyment of the Center;
- 6 (s) accept, receive, disburse and expend moneys from foreign governments and other
7 moneys, public or private, made available by grant, loan or endowment, to accomplish, in whole
8 or in part, any of the purposes of this Act;
- 9 (t) provide technical assistance and services for project identification, formulation and
10 activation;
- 11 (u) foster economic activities and to cooperate with other institutions within or without
12 the Republic in supporting activities for the preservation and study of coral reefs or the
13 responsible cultivation and harvesting of marine organisms;
- 14 (v) promote the education of Palauan citizens in matters related to the intrinsic value,
15 conservation and efficient usage of the coral reefs and other marine organisms.
- 16 (w) educate tourists in the non-destructive enjoyment and observation of the coral reef
17 environment;
- 18 (x) engage in all lawful commercial activities which will further the development of the
19 preservation and study of the coral reefs and other marine organisms;
- 20 (y) adopt procurement policies substantially similar to those set forth in 40 PNC Chapter
21 6; and
- 22 (z) have and exercise all powers necessary and proper to effectuate the purposes of this
23 Act.

24 Section 7. Board of Directors; selection, terms, vacancies, quorums and compensation

- 25 (a) All powers vested in the Center shall be exercised by the Board of Directors, except
26 to the extent that this Act or the Board delegates powers to other persons.
- 27 (b) The Board shall consist of: 9 voting directors; the Chief Executive Officer, who shall
28 be a non-voting director, and, for the first two years of the existence of the Center, the Director
29 of the Ministry of Natural Resources and Development and the Minister of Administration, who
30 shall be ex-officio, non-voting members. Each voting director shall be appointed by the
31 President with the advice and consent of the Senate. Appointment and confirmation shall be

1 subject to the following criteria and guidelines:

2 (1) A majority of the voting directors shall be Palauan,

3 (2) At least 3 member of the voting directors shall be non-Palauan in order to
4 assure that links with other countries and non-profit institutions are established,

5 (3) At least 1 director shall be a member of the Technical Working Group,

6 (4) Voting directors must have a college degree in the field of business, marine
7 science, education or equivalent experience in the specified fields;

8 (5) No voting director may simultaneously serve as an employee of the Center;

9 and

10 (6) Each voting director shall also have experience in one or more of the
11 following areas:

12 (A) Tropical marine education or research;

13 (B) Public or private fundraising;

14 (C) Conservation of marine resources;

15 (D) Aquarium or marine park management; and

16 (E) Employment by or association with multi-lateral donors that focus on
17 sustainable development in the region

18 (d) The Board shall organize by electing one of its voting directors as Chairman and
19 another as Vice Chairman. The Chairman and the Vice Chairman may be removed from office
20 by a vote of not less than 5 directors. The Board shall designate a Secretary, who may be a
21 member of the Board, to keep accurate minutes and records of the Board.

22 (e) Voting directors shall initially serve terms as follows: three for four years, three for
23 three years and two for two years; thereafter, all voting directors shall serve four-year terms.
24 No director may serve beyond the expiration of his term. The President shall assign initial terms
25 to directors as he chooses, prior to the Senate confirmation process. The President shall make
26 his initial appointments to the Board within 30 days after the effective date of this Act. All
27 subsequent appointments must be made within 30 days after a preceding appointment is rejected
28 or a vacancy occurs. Any director appointed to fill a vacancy on the Board occurring prior to
29 the expiration of the term for which his predecessor was appointed shall be appointed by the
30 President, with the advice and consent of the Senate, for the remainder of the term. A Director
31 may only be removed by a 2/3 vote of the Board.

1 (f) Any 5 voting directors shall constitute a quorum. The concurrence of a majority
2 of at least a quorum shall be necessary for any official action taken by the Board, unless
3 otherwise provided herein. No vacancy of a director shall impair the right of the quorum to
4 exercise the rights and perform the duties of the Board.

5 (g) Those directors who are state or national government employees may receive no
6 compensation from the Board. The Board shall determine the compensation, if any, of directors
7 who are not employees of the national or any state government. The Board shall establish the
8 salary of the CEO.

9 (h) As soon as practicable, but in no event later than 15 days after the Senate
10 confirmation of at least 5 directors, and annually thereafter, the Board shall meet for the purpose
11 of electing its officers for the following year. The Board shall meet regularly at the call of the
12 Chairman, or by petition of five Directors.

13 Section 8. Appointment of Chief Executive Officer. The Chief Executive Officer shall
14 be appointed and may be removed by the Board pursuant to its bylaws. The CEO shall report
15 directly to the Board.

16 Section 9. Powers and duties of the Chief Executive Officer. The Chief Executive
17 Officer of the Center shall have the following powers and duties.

18 (a) To manage and ensure the efficient operation of the Center;

19 (b) To recruit, select, hire and terminate all employees of the Center, including a Chief
20 Science Officer, and to contract for management, professional, legal, accounting, training,
21 concessionaire, and technical advisory services;

22 (c) To direct the Center's fundraising efforts and to report on those efforts to the Board.

23 (d) To ensure that the missions of the Center, as set forth in this Act, are carried out.

24 (e) To approve appropriate requests to use the Center's facilities;

25 (f) To attend all meetings of the Board and report on the affairs of the Center;

26 (g) To keep the Board advised on the needs of the Center;

27 (h) To approve demands for payment of obligations within the purposes and amounts
28 authorized by the Board;

29 (i) To prepare or cause to be prepared all plans and specifications for the construction
30 and repair of facilities, vehicles, vessels, and equipment owned or operated by the Center.

31 (j) To be employed exclusively by the Center and to devote her entire working time to

1 the business of the Center under the general direction of the Board;

2 (k) To provide monthly financial statements to the Board, and such other financial or
3 other reports as the Board may require; and

4 (l) To cause to be published within 60 days after the end of each fiscal year, a financial
5 and operations statement showing the result of operations for the preceding fiscal year and the
6 financial status of the Center on the last day thereof.

7 Section 10. Appointment of Science and Policy Advisory Committee. The Board shall,
8 pursuant to the Center's bylaws, appoint a Science and Policy Advisory Committee composed
9 of willing members of the business and scientific community to advise the Board on matters of
10 Board policy, management, scientific research and education.

11 Section 11. Equal Access. The Center, taking into account budgetary, planning and
12 facility limitations, shall strive to provide equal access to the Center's facilities to all foreign
13 nations and entities seeking to conduct well defined research projects and to provide educational
14 opportunities in the field of coral reef/marine management and preservation

15 Section 12. Research Library. The Center shall maintain a research library which will
16 serve as a central depository for all materials gathered from research projects conducted in Palau

17 Section 13. Downstream Revenues. The Board, within six months of the initial
18 operation of the Center, shall provide the Oibii Era Kelulau with proposed legislation regarding
19 the distribution of downstream revenues resulting from research projects conducted in Palau.

20 Section 14. Tourist Training. The Board shall, within 90 days of the appointment of
21 Directors, devise a training program for tourists and tour guides, to be conducted through the
22 Center, to protect the marine environment of Palau. The training program shall include a fee
23 structure for such training

24 Section 15. Marine Park. The Board shall, within six months of the appointment of
25 Directors, devise a proposal for the development of marine parks within the Republic of Palau
26 Copies of such report shall be presented to the President, the Vice President and members of the
27 Oibii Era Kelulau with supporting legislation to implement the proposal.

28 Section 16. National and State Tax and Regulatory Status. The Center shall be exempt
29 from national and state taxes, fees and regulations only as set forth herein.

30 (a) The Center shall be exempt from the National Gross Revenue Tax, Net Income Tax,
31 Import Tax, and all state taxes.

1 (b) All foreign suppliers of products and services to the Center, and their independent
2 contractors that provide such products during and related to the original construction or repair
3 of the Center's facilities, shall be exempt from their respective Gross Revenue Tax, Net Income
4 Tax, Import Tax, and Wages and Salary Tax obligations, except as otherwise provided herein.

5 (c) All foreign suppliers of products and services to the Center, and their independent
6 contractors that provide such products after initial construction of the Center is complete, shall
7 not be exempt from applicable Gross Revenue Taxes, Net Income Taxes, Import Taxes and
8 applicable fees.

9 (d) Employees of the Center shall pay Wages and Salary Taxes.

10 (e) The Center shall be exempt from any charges for public lands easements.

11 (f) The Center shall pay all fees for electricity, water and sewerage services.

12 (g) The Center shall be liable for any contributions to the social security system or
13 pension plan as is or may be required by law.

14 (h) All business transactions of a foreign entity with the Center are exempt from any
15 otherwise applicable foreign investment permit requirements, specifically 28 PNC Chapter 1,
16 except that each foreign entity must pay a minimum wage of not less than the minimum wage
17 paid to national government employees.

18 (i) The Center shall endeavor to negotiate with the States of the Republic regarding
19 all other regulatory matters

20 Section 17. Public meetings and official meetings. All meetings of the Board shall be
21 open to the public and official documents shall be available for public inspection

22 Section 18. Review of contracts. The Board shall insure that all legal agreements and
23 contracts are reviewed as to form and legality by the Attorney General or other attorney

24 Section 19. Budget preparation. The CEO shall prepare, in advance of each fiscal year,
25 an annual budget for the Center, taking into consideration anticipated revenues, capital and
26 operational expenditures and the marine research and education plan prepared by the Science
27 Officer. The Center shall use the same fiscal year as the National Government of the Republic
28 The budget shall indicate the operational, capital, and maintenance requirements of the Center
29 that will be met with the anticipated revenues of the Center and such essential requirements
30 which cannot be met without an increase in the rate of revenues or outside financial assistance
31 The annual budget shall be reviewed and approved by the Board.

1 Section 20. Reporting audits.

2 (a) The CEO shall keep accurate records of the Center's business. Such records shall
3 include accountings of all income, expenditures and assets, both tangible and intangible, and
4 liabilities of the Center.

5 (b) The Board shall adopt and maintain a system of accounting which is in accordance
6 with generally accepted accounting principles applicable to public corporations. The system
7 adopted shall require that:

8 (1) The CEO employ a firm of independent certified public accountants who shall
9 examine the Center's records and report to the Board, at least annually, upon the status
10 of the financial records and accounts maintained by the Center; copies of any audit
11 reports shall be furnished to the President and the OEK.

12 (2) The Board shall report to the President and the OEK on the affairs of the
13 Center. It shall present an annual report within 60 days after the end of each fiscal year
14 and, if requested by the President or the OEK, shall present special reports within 30
15 days after the end of each intervening quarter.

16 (3) The Public Auditor shall conduct an annual audit of the Center.

17 Section 21. Manual of Administration. The Board shall establish a Manual of
18 Administration to include rules and regulations governing the selection, promotion, performance
19 evaluation, demotion, suspension, dismissal, and other disciplinary rules for employees of the
20 Center. Employees of the Center shall be eligible to participate in any health insurance plan, life
21 insurance plan, retirement fund and workmen's compensation fund available to Republic of Palau
22 employees. The Center shall contribute to such programs on the basis of periodic billings as
23 determined by the governing authorities thereof. The employees of the Center shall be exempt
24 from the provisions of the Palau National Public Service System Act.

25 Section 22. Corporate debts and obligations. Unless otherwise expressly provided by
26 law, the National Government shall not be liable for any debts incurred by or obligations
27 imposed upon the Center.

28 Section 23. Government assistance to the Center in carrying out its function. For the
29 purpose of aiding in the planning, undertaking or carrying out of the provisions of this Act and
30 of the projects contemplated herein, and the subsequent operation of the Center, the Republic
31 and any ministry, bureau, agency, authority or political subdivision thereof, may:

- 1 (a) Dedicate, sell, convey, lease or otherwise transfer interests in real or personal
2 properties, rights, or privileges that it may have to the Center;
- 3 (b) Incur expenses on behalf of the Center subject to reimbursement under such terms
4 and conditions as may be agreed upon with the Center;
- 5 (c) Do any and all things necessary or helpful to aid or cooperate in the planning or
6 carrying out of the duties, powers and obligations of the Center;
- 7 (d) Lend or advance, grant or contribute funds to the Center, and provide for or waive
8 the repayment of any such funds loaned or advanced; and
- 9 (e) Contract with or furnish services to the Center upon such terms and conditions as
0 may be agreed upon.

1 Section 24. Indemnification. The Corporation shall indemnify and hold harmless all
2 directors, officers and employees from all claims related to the matters contained in this Act, and
3 arising from acts within the scope of their respective duties. This indemnification shall not apply
4 to intentional or reckless acts.


5 Section 25. Transition. Prior to the appointment of directors of the Board by the
6 President and their confirmation by the Senate, the Vice President or his designee, with the
7 advice of the Technical Working Group established by Executive Order 144 or its successor,
8 shall oversee and manage the Corporation pursuant to this Act and the appropriate Executive
9 Order.

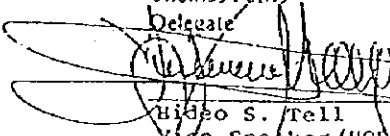
0 Section 26. Appropriation. The sum of \$150,000 is hereby authorized and appropriated
1 for fiscal year 1998 for site preparations and initial operations of the Center. These funds shall
2 come from interest earnings on Compact investments and shall be administered by the President.
3 These funds shall not lapse.

4 Section 27. Effective Date. This Act shall take effect upon its approval by the President
5 of the Republic, or upon its becoming law without such approval, except as otherwise provided
6 by law.

Date: 11/21/97

Introduced by


THOMAS PATRIS
Delegate


Hideo S. Tellez
Vice Speaker/100

South Pacific Regional Environment Programme

International Coral Reef
Initiative (ICRI)
Pacific Region
Strategy

Published in March 1996
Apia, Western Samoa



International Coral Reef Initiative (ICRI) Pacific Regional Strategy



Background to the International Coral Reef Initiative

The International Coral Reef Initiative (ICRI) aims to increase the capacity of countries and local groups to effectively conserve and sustainably use coral reefs and their related ecosystems, including mangrove forests, seagrass beds and beaches. The key to its success will be global cooperation, effective use of existing resources and identification of effective mechanisms for implementation. The Initiative was established out of concern for serious coral reef decline in many parts of the world.

The ICRI *Framework for Action* recognises the following principles:

- Achieving the ICRI's purpose requires the full participation and commitment of governments, local communities, donors, NGOs, the private sector, resource users and scientists; therefore true partnerships, cooperation and collaboration exemplify the ICRI activities.
 - The over-riding priority is to support actions that will have tangible, positive and measurable effects on coral reefs and related ecosystems and on the well-being of the communities which depend upon them.
 - Human activities are the major cause of coral reef degradation; therefore managing coral reefs means managing those human activities.
- Individuals whose decisions and actions affect coral reefs - from board rooms to beaches - need to become aware of, and committed to, the conservation and sustainable use of coral reefs and related ecosystems.
- The diversity of cultures, traditions and governance within nations and regions should be recognised and built upon in all the ICRI activities.
 - Integrated coastal management, with special emphasis on community participation and benefit, provides a framework for effective coral reef and related ecosystem management.
 - Developing national capacity to conserve and sustainably use coral reefs and related ecosystems requires a long term (decadal) commitment. Improvement of coral reef management requires a permanent commitment and an adaptive approach.
 - Strategic research and monitoring programs should be an integral part of the ICRI because management of coral reefs and related ecosystems should be based on the most relevant scientific information.
 - Actions promoted under this framework should take account of, and fully use, the extensive body of international agreements and organisations that address issues related to coral reefs and related ecosystems. The ICRI will facilitate the leveraging and channeling of existing resources among all sectors for the benefit of coral reefs and related ecosystems.





Coral Reefs and Related Ecosystems in the Pacific Region

Coral reefs are one of the most important and extensive ecosystems within the Pacific region. When considered in conjunction with mangrove, seagrass and beach systems, their importance to the well-being of the Pacific people and their island environments cannot be over-stated. They are a critical element of the complex and vulnerable tropical small island environment. Without reefs, many atoll countries and most tourist beaches in the Pacific region would not exist. Coral reefs constitute the primary coastal protection structures on most tropical islands and provide the sand for construction of atoll islets and beaches. This is in addition to their important functions as sources of subsistence food resources, reservoirs of high biodiversity, and environmental health indicators. The social, cultural and economic prosperity of the Pacific islands region has been, and will continue to be, directly dependent upon the health of coral reefs and related ecosystems.

Natural disturbances have been affecting coastal environments for millions of years and have a role in maintaining the diversity of coral reefs and related ecosystems. Biological communities can be considered robust systems that can and indeed have, recovered from acute disturbances over geological time scales. However, the synergistic effects of human-induced chronic disturbances acting in concert with natural disturbances alter the capacity for recovery.

Human activities are the primary cause of coral reef degradation and most of these are chronic threats. Environmental conditions resulting primarily from human population growth, water pollution, resource over-exploitation and direct physical damage are causing reefs to deteriorate at an alarming rate. Increasing social and economic demands are placing new levels of stress on Pacific coral reefs.

In the Pacific region the main threats to coral reefs and related ecosystems include:

- pollution from sewage, fertilisers, biocides, toxic wastes, oil spills, solid wastes, freshwater runoff and other land-based sources of pollution;
- siltation due to soil erosion from inappropriately conducted land use practices (agriculture, forestry, mining, road building, site clearance);
- over-exploitation of coral reef resources (e.g. commercially valuable species such as beche-de-mer, giant clams, trochus, certain fish and shell fish; live coral harvesting for aquariums and the tourist trade; mining coral heads for construction; subsistence fishing pressure);
- destructive fishing and collecting methods (e.g. poisons, explosives);
- land reclamation (including mangrove and reef-flat destruction), inappropriate coastal protection works, and unsound mariculture practices;
- coastal and marine development projects progressing without Environmental Impact Assessment (EIA), or with inadequate EIAs;
- channel blasting and dredging activities;
- mining of beach and reef materials;
- coastal erosion and accretion;
- tourism activities and related developments;
- military testing, training and dumping (e.g. nuclear testing, munitions disposal); and
- catastrophic events (e.g. tropical cyclones, volcanic eruptions, earthquakes, tsunamis, coral bleaching, crown-of-thorns starfish infestations, severe El Niño-Southern Oscillation (ENSO) events, and possible climate change and sea level rise).

To address these stresses, new approaches to management must be developed which draw upon the foundations of traditional use and practices and incorporate the understanding and procedures developed through relevant science and technology.



Purpose



The *ICRI Pacific Regional Strategy* was developed and agreed to by the participants of the ICRI Pacific Regional Workshop held in Suva, Fiji, 27 November to 1 December 1995. The strategy builds upon and aims to assist in the implementation of the *ICRI Call to Action* and *Framework for Action* (see Annexes 2 & 3) in the Pacific region, and should be considered jointly with those documents.

The two underlying themes of the Strategy are that:

1. sustainable management of coral reefs and related ecosystems within the Pacific region requires the adoption of appropriate Integrated Coastal Management (ICM); and
2. effective implementation of Integrated Coastal Management will depend upon the support and full involvement of all stakeholders, especially the customary owners and users.

The Strategy has been developed to highlight the specific issues and priorities of the Pacific region for the conservation, management and sustainable development of coral reefs and related ecosystems. Detailed actions to address many of the relevant issues are identified in a range of other sources, including a number of international and regional treaties and agreements. It is not intended to reproduce such a level of detail in this document. It is expected that the Strategy will be implemented in light of these instruments and using other relevant tools. The objectives and actions below are

intended to broadly identify how this should be carried out in a manner which is appropriate to the Pacific region. We are seeking through ICRI to build a strategy, capacity and acceptance of responsibility for the management of coral reefs and related ecosystems that reflect the Pacific Way.

There is a wide range of traditional and more recent cultures and practices in the Pacific. Although they differ and have been differently affected by recent social and economic processes, many of the indigenous cultures of the Pacific form a good foundation for ICM. They incorporate traditions of customary management which view coral reefs as an integral component of the whole physical, biological, economic, cultural and social environment. This concept is wide-spread throughout the Pacific region (e.g. *vanua, fanua, whenua, aina*).

Each country or territory in the Pacific has its own set of issues and priorities. This Strategy cannot address these in detail but rather seeks to identify common unifying themes and concerns within the region. It is most appropriate to determine specific courses of action at the country and local levels where they need to be applied, taking into consideration the particular circumstances and priorities that exist.

It is also recognised that there are already many programmes and processes currently in existence that address the issues set out below. The Strategy is designed to provide support to such activities through identifying actions to promote cooperation, coordination and effective use of resources.





Pacific Regional Strategy

1. Coastal Management

It has been generally recognised that Integrated Coastal Management (ICM) is the most appropriate way to manage coral reefs and related ecosystems. Therefore there is an urgent need for Pacific island countries and territories to develop ICM programs and strategies appropriate to Pacific island circumstances. Such strategies need to not only be technically appropriate and scientifically sound, but also culturally and socially relevant.

There are many definitions and/or descriptions of the ICM concept. For example, the Noordwijk Guidelines for Integrated Coastal Zone Management¹ define it as:

...a governmental process and consists of the legal and institutional framework necessary to ensure that development and management plans for coastal zones are integrated with environmental (including social) goals and are made with the participation of those affected. The purpose of ICZM is to maximize the benefits provided by the coastal zone and to minimize the conflicts and harmful effects of activities upon each other...

What is important to note about most of the definitions and descriptions is that they refer to ICM as a 'process'. There is no one 'correct' ICM methodology, as the process and resultant framework need to be tailored for each country or territory's circumstances.



¹ World Bank 1993. Noordwijk Guidelines for Integrated Coastal Zone Management. Prepared by the Land, Water and Natural Habitats Division, Environment Department, The World Bank, for distribution to the World Coastal Conference 1993, International Conference on Coastal Zone Management, Noordwijk, The Netherlands, 1-5 November. pp. 22

Goal

To effectively manage coral reefs and related ecosystems through the adoption of Integrated Coastal Management appropriate to the circumstances found within the region.

Issues

1.1 Pollution from human activities on land and at sea

Objective

To minimise and control pollution resulting from human activities on land and at sea.

Actions

- 1.1.1 Develop and implement appropriate watershed management and drainage plans to address erosion, siltation, and nutrient, freshwater and biocide runoff.
- 1.1.2 Develop and implement appropriate domestic and industrial waste management programs for solid, sewage, toxic and other types of waste.
- 1.1.3 Adopt regulations and practices which eliminate, minimise or mitigate as appropriate the impacts on the marine environment of chemicals used in marine industries (i.e. fuels, anti-fouling agents, etc).

1.2 Adverse effects of coastal development

Objective

To develop and implement environmentally sound coastal development practices.

Actions

- 1.2.1 Control and minimise reclamation activities and mangrove clearing.
- 1.2.2 Ensure that coastal engineering and construction practices are environmentally sound.
- 1.2.3 Develop and enforce regulations for dredging, channel blasting, and beach and coral mining.
- 1.2.4 Develop and apply tourism and recreational development standards.



Annex 2

ICRI Call to Action (2 June 1995)

The nations and organisations supporting the International Coral Reef Initiative (ICRI) urge attention to the following:

The Global Problem

Coral reefs are in serious decline globally, especially those near shallow shelves and dense populations. It has been estimated that 10 percent of the earth's coral reefs have already been seriously degraded and a much greater percentage is threatened. If allowed to continue, this decline is likely to lead to the loss of most of the world's reef resources during the next century.

The Threats to Coastal Ecosystems

The reasons for the decline in reef health are varied, complex, and often difficult to accurately determine. While natural events - such as storm damage, predator infestations, and variations in temperature - have some impact on reef ecosystems, human activity is a primary agent of degradation. Contributing factors include:

- Direct impacts from activities such as resource extraction, in-filling, over harvesting, and diving and boating activities, as well as nutrient enrichment and toxic pollution;
- Inadequate planning and management of coastal land use, including upland activities.

Population growth, increasing pollution and increased uses of the fragile resources will accelerate the decline in coral reef ecosystems, with societal and ecological effects extending beyond reef environments.

The Significance of Coral Reef Ecosystems

Coral reef ecosystems offer benefits to humankind beyond those realized for food production, tourism, recreation, aesthetics, and shoreline protection.

Capable of sustaining innumerable coastal communities worldwide, these ecosystems also have great economic, social, and cultural importance to nations, and to entire regions. As competition among multiple uses of reef resources increases, so too will their significance to the human populations that depend on them.

Coral reef ecosystems are among the most biologically productive and diverse in the world; they also serve as indicators of environment health. These facts were recognized at the 1992 United Nations Conference on Environment and Development, where coral reefs and associated systems were accorded a high priority for protection in Agenda 21.

Reducing the Threats

Threats from human-related impacts can be minimised or eliminated through:

- Improved and sustained management practices;
- Increased national and local capacities for coral reef ecosystem management;
- Increased political support for managing coral reef ecosystems; and



- The sharing of existing important and new information related to maintaining the health of these ecosystems.

The ICRI governments endorse the following measures, to be implemented through global, regional, and national actions:

Coastal Management

- Incorporate Integrated Coastal Management measures into local, national, and regional, coastal development plans and projects, and support their long-term implementation. These measures will serve as the framework for achieving the sustainable use of, and maintaining the health of, coral reefs and associated environments.
- Develop coral reef initiatives (regional, national, and/or local). These should use an ecosystem-based, integrated approach that encourages participation and includes programs for community-based management or co-management of reef resources.

Capacity Building

- Establish regional networks to share knowledge, skills, and information.
- Develop and support educational and informational programs aimed at reducing adverse impacts of human activities.
- Establish information exchanges with stakeholder communities.
- Improve developing nations' access to bilateral, multilateral, and other forms of financial and technical support for coral reef management.

Research and Monitoring

- Use regional networks to achieve better coordination and cooperation among national research programs.
- Promote linkages between regional and global research and monitoring networks, such as CARICOMP (Caribbean Coastal Marine Productivity), PACICOMP (Pacific Coastal Marine Productivity), and GOOS (Global Ocean Observing System)
- Support research and monitoring programs, projects, or activities identified as essential to managing coral reef ecosystems for the benefit of humankind.
- Promote the development and maintenance of a global coral reef monitoring network.

Review

- Periodically review the extent and success of implementation of actions identified in the initiative.

The Nations and organizations supporting ICRI call upon all other relevant, international entities, governmental and non-governmental organizations, including the private sector and scientific communities, to undertake the actions above.

Annex 3

ICRI Framework for Action, (3 June 1995)

Preamble

Maintaining the biological diversity, condition, resources, and values of coral reefs and related ecosystems is a matter of global urgency. While the majority of countries which have coral reefs are developing countries, there are many reefs in the waters of developed countries. This unites the developed and developing countries and should command the attention of the international community. Coral reef survival depends upon the world community acquiring and maintaining the knowledge and capacity to conserve and sustainably use coral reefs and related ecosystems. This requires that all uses and impacts be brought within and maintained at levels which do not exceed these systems' natural capacity for production and regeneration.

The International Coral Reef Initiative (ICRI) Workshop was held at Silliman University in Dumaguete City, Philippines in May 1995 to enable countries, donors, development and funding agencies to work with coral reef managers, private sector representatives, non-governmental organisations and scientists to develop this Framework as a basis for achieving sustainable management of coral reefs and related ecosystems.

The ICRI *Framework for Action* builds upon and reflects the principles and processes established by Agenda 21, the UN Commission on Sustainable Development, the Convention on Biological Diversity, the UN Framework Convention on Climate Change, the Global Conference on Sustainable Development of Small Island Developing States, the UN Convention on the Law of the Sea, Convention on International Trade in Endangered Species of Wild Flora and Fauna, Global Program of Action to Protect the Marine Environment from Land-Based Activities and other relevant international programs. It has been developed as a succinct statement which should be read and interpreted in light of these documents.

This Framework addresses the four elements of the ICRI *Call to Action*, which are:

- management;
- capacity building;
- research and monitoring; and
- review.

Framework Purpose

The purpose of this *Framework for Action* is to mobilise governments and the wide range of other stakeholders whose coordinated, vigorous and effective actions are required to implement the *Call to Action*.

Principles

The ICRI recognises the following principles:

Achieving the ICRI's purpose requires the full participation and commitment of governments, local communities, donors, NGOs, the private sector, resource users and scientists; therefore true partnerships, cooperation and collaboration exemplify the ICRI activities.

The over-riding priority is to support actions that will have tangible, positive and measurable effects on coral reefs and related ecosystems and on the well-being of the communities which depend upon them.

Human activities are the major cause of coral reef degradation; therefore managing coral reefs means managing those human activities. Individuals whose decisions and actions affect coral reefs - from board rooms to beaches - need to become aware of and committed to the conservation and sustainable use of coral reefs and related ecosystems.

The diversity of cultures, traditions and governance within nations and regions should be recognised and built upon in all the ICRI activities.

Integrated coastal management, with special emphasis on community participation and benefit, provides a framework for effective coral reef and related ecosystem management.

Developing national capacity to conserve and sustainably use coral reefs and related ecosystems requires a long term (decadal) commitment. Improvement of coral reef management requires a permanent commitment and an adaptive approach.

Strategic research and monitoring programs should be an integral part of the ICRI because management of coral reefs and related ecosystems should be based on the most relevant scientific information.

Actions promoted under this framework should take account of, and fully use, the extensive body of international agreements and organisations that address issues related to coral reefs and related ecosystems. The ICRI will facilitate the leveraging and channeling of existing resources among all sectors for the benefit of coral reefs and related ecosystems.

Action

All those committed to supporting the ICRI and this Framework for Action are called upon to take account of and to act on the following at the international, regional and national levels.

Support national and regional efforts to establish and coordinate strategies, priorities and programs to implement the ICRI Framework for Action, starting with regional workshops to be held by early 1996.

Ensure that sustainable management of coral reefs and related ecosystems is considered at future relevant international meetings.

Develop and/or strengthen national, regional and international mechanisms for gathering and sharing information and expertise on the sustainable management of coral reefs and related ecosystems.

Promote improved access to financial and technological resources to enable institutions, regional centres and networks to assist and inform governments, industries and communities.

Addressing conservation and sustainable use of coral reefs and related ecosystems requires activities in the following areas:

- integrated coastal management;
- public awareness, education and training;
- ratification of, or accession to, relevant international instruments;
- stakeholder participation at all levels;
- training policy makers and private sector decision makers in the development and implementation of coral reef management;

-
- marine science and technology;
 - environmental law, particularly environmental impact assessment regulations; and
 - assessing the potential for micro-enterprise development and facilitating access to financing on a small to medium scale.

(a) Management

Encourage governments to develop and adopt Integrated Coastal Management measures, including:

- protection of the marine environment from land based sources of marine pollution;
- environmentally sound land use practices, including zoning where appropriate;
- measures to protect the marine environment from the adverse effect of maritime activities;
- national and regional disaster strategies;
- measures to prevent illegal fishing practices, achieve sustainable fisheries and protect the ecological systems that support them;
- tourism management and planning;
- cultural aspects of resource use; and
- enforcement of regulations.

Encourage governments and funding agencies to consider the ICRI Framework in project and program design and implementation.

Encourage, where appropriate, an intersectoral systems approach to planning and management.

Encourage improved coordination among international organisations, donors and NGOs to provide more effective programs at the regional and national level.

Encourage prompt implementation of the outcomes of FAO Code of Conduct for Responsible Fisheries and the Global Program of Action to Protect the Marine Environment from Land-Based Activities.

Promote awareness and action by the global tourist community to minimise individual and collective impacts of tourism on coral reefs and related ecosystems.

Promote the establishment and effective management of coastal and marine protected areas for coral reefs and related ecosystems, within the framework of customary international law as exemplified by the UN Convention on the Law of the Sea. This will contribute to the development of the Global Representative System of Marine Protected Areas as proposed by the World Bank, IUCN and Great Barrier Reef Marine Park Authority.

Promote the regulation of international trade in endangered and threatened reef-associated species through the Convention on International Trade in Endangered Species of Wild Flora and Fauna (CITES), and improve its implementation where required.

Encourage governments to develop and promote mechanisms for regulating international trade in species that are illegally harvested.

Encourage governments to develop legislation, policy and institutional capacity to apply environmental assessment to development activities.

Promote appropriate technologies, including voluntary programs and economic incentives and best management practices, for control of land-based causes of marine pollution.

Promote and replicate successes in integrated coastal management, including community based management, as appropriate.



Support management measures to improve the socio-economic condition of local communities through such means as retraining and sustainable alternative livelihood development.

(b) Capacity Building

Capacity building includes establishing and strengthening human resource and institutional capabilities for coastal management, science, training and education.

Encourage regional organisations to assist countries and communities implementing ICRI, for example through measures including:

- preparation of project proposals
- implementation of small grant programs

Establish, strengthen and sustain mutually supportive networks of centres of expertise in management of coral reefs and related ecosystems.

Base human resource development strategies on needs assessments and ensure that they address:

- the diversity of cultures, traditions and governance structures;
- increased community awareness and involvement;
- improving the capacity of today's managers;
- providing for the education of tomorrow's managers;
- coverage of coral reef management issues in the training of all professionals whose work involves decisions which affect coral reefs and coastal resource management;
- technical training needs for people at the field level;
- training and supporting trainers to work at the community and field level;
- evaluation of the effectiveness of training; and
- the need to target children in awareness raising.

Improve coordination and targeting of the education and human resource development programs provided by development partners.

Support formal and informal environmental education programs for all levels of the community on the subject of coral reefs and related ecosystems, with curricula and materials tailored to the interests and needs of the regions and end-users.

Encourage maximum use of national and regional expertise in management, research and capacity building activities.

Support the development, identification and dissemination of materials which address the interests and needs of the regions, including:

- the value of coral reefs and related ecosystems;
- practical monitoring and management techniques;
- inventories of formal and on-the-job training opportunities;
- case studies of management, including success stories as well as examples which have not been successful; and
- case studies of human impact and natural variation in coral reefs and related ecosystems.

Increase the relevance to ICRI of existing donor scholarship programs by:

- devoting a proportion of scholarship awards to environmental studies; and
- encouraging thesis and dissertation studies carried out in home countries.

Encourage the private sector's role in management of coral reefs and related ecosystems through:

- use of appropriate technologies;
- development of a trained and educated workforce; and
- innovative approaches to better environmental operating standards.

(c) Research & Monitoring

Research and monitoring are needed to assess the status of coral reefs, evaluate the success of management and conservation actions and develop more effective management practices. As tropical ecosystems, coral reefs and related ecosystems are subject to dynamics which are generally less well understood than temperate systems. Therefore, without evidence it should not be assumed that they will react to natural and human disturbances in the same way as temperate systems.

Research and monitoring programs should address biological, physical, social, cultural and economic studies and should be carried out over time periods appropriate to their objectives. They should be supported by information management, interpretation and dissemination. In the collection of data for both research and monitoring, resource users should be involved to the maximum extent practicable.

Promote the involvement of managers in the development, conduct, interpretation and application of research and monitoring programs.

Promote and assist the development and application of resource assessment methods that:

- allow for rapid assessment to establish baselines and initiate management; and
- can be used in Geographic Information and Decision Support Systems.

Promote the development of a Global Coral Reef Monitoring Network under the Coastal Zone Module of the Global Ocean Observing System by incorporating and, as necessary, establishing or strengthening regional nodes.

Encourage studies of coral reefs and related ecosystems which:

- address priority management issues in individual countries or regions;
- address the synergies between human effects and natural variations as causes of stress and degradation in coral reefs and related ecosystems;
- involve interdisciplinary research into human impacts with initial priority on fisheries and tourism;
- integrate traditional knowledge;
- quantify the socio-economic impacts of conservation and habitat destruction;
- address the scales and linkages of the biological communities; and
- develop methods for impact mitigation and reef restoration.

Develop programs to involve communities, resource users, the private sector and others in monitoring the condition of coral reefs and related ecosystems.

Encourage regional and international forums which bring together managers and scientists to identify priority information requirements for management of coral reefs and related ecosystems.

(d) Review

Review of the state of coral reefs and related ecosystems and of action taken to implement the ICRI Framework for Action should be conducted at national, regional and international levels on a regular basis.



The four yearly cycle of the international coral reef symposia provides an excellent opportunity to discuss the ecological condition of coral reefs. This should be matched by an equivalent program to review the effectiveness of implementation of actions in accordance with the ICRI Framework For Action.

At the international level, the UN Commission on Sustainable Development provides an appropriate forum for review of international actions taken at all levels by governments, international organisations and agencies. The 1996 session of the Commission on Sustainable Development, with its focus on Chapter 17 (Protection of Oceans) of Agenda 21 will deal, inter alia, with coral reefs and related ecosystems.

UNEP should be encouraged to review the implementation and success of the ICRI Framework For Action through relevant programs including the Regional Seas Programmes.

Similarly the Intergovernmental Oceanographic Commission (IOC) through the Global Coral Reef Monitoring Network, should be encouraged to produce reports on the ecological condition of coral reefs and related ecosystems for discussion at the quadrennial International Coral Reef Symposia and other relevant international forums.

附属資料Ⅱ-9 収集資料リスト

Title	Source
Development Plan	
1 Economic Development Plan 1995-1999	The Foundation for Development
2 National Master Development Plan	
Tourism	
1 An Analysis of Tourism Activities in Palau	Pacific Business Program
2 Sustainable Development Policies and Action Plan	Palau Visitors Authority
3 PVA financial Statement and Independent Auditor's Report	Palau Visitors Authority
Statistics	
1 1995 Census of the Republic of Palau	Office of Planning and Statistics
2 Economic Report, November 1997	Bank of Hawaii
3 The Palau 2000 Master Plan for Education Improvement	Palau 2000 Task Force
4 Invest in Education for a Stronger Tomorrow	Palau Community College
5 Statistical Yearbook 1992	Office of Planning and Statistics
Natural Condition / Environment	
1 Guide to Environmental Impact Assessment	Environmental Quality Protection Board
2 Environmental Impact Statement Regulations	Environmental Quality Protection Board
3 State of the Environment Report, UNDP	South Pacific Regional Environment Programme
4 Water Quality Survey in Malakal Port	
Coral Reef Conservation / ICRI	
1 Biodiversity Conservation in the Republic of Palau; Document of the 5th Pacific Environmental Conference, Beijing	Dr. Minouru F. Ueki, P.C.S.
2 Information on Special Training Course in Conservation and Sustainable Management of Coral Reefs	JICA
3 International Coral Reef Initiative, Planning Workshop Agenda (Philippine)	
4 International Coral Reef Initiative Call to Action, June 2, 1995	
5 Report of the EPC meeting, A Strategy for the Future of ICRI, June 1995-June 1996.	
6 Report of the International Coral Reef Initiative(ICRI), Regional Workshop for the East Asean Seas, Bali, 18-22 March, 1996	UNEP, Ministry of State for Environmental, Indonesia
7 Annex XIV, International Coral Reef Initiative, East Asian Seas Regional Strategy	UNEP(W)/EAS WG.3/2
8 ICRI 2nd East Asian Seas Regional Workshop, Opening Address by Director General of TNC.	
9 Okinawa Declaration ICRI 2nd East Asian Seas Regional Workshop, 20 Feb. 1997	
Others	
1 Profile of TNC Activities	TNC
2 Profile of CRRF	CRRF
3 Report of Reconnaissance Survey on Nature Conservation Project in	KEIDANREN
4 Ngerel a Biib, Newsletter of the PCS, No3,4	PCS
5 Privatization and Development of Telecommunications Services	PNCC
6 R/D job description	R/D
7 PMDC job description	PMDC

附属資料Ⅱ-10 当該国の社会・経済事情

一般指標			
国名	パラオ共和国	面積	458km ²
政体	大統領制	人口	17,225人(1995年センサス)
元首	大統領	首都	コロール
独立年月日	1994年10月	主要都市名	ベリリュウ、アイメリック
人種(部族)構成	パラオ人(72.6%) フィリピン人(16.0%)	経済活動可能人口	11,902人(1995年センサス)
言語・公用語	パラオ語と英語	教育制度	初等8年(義務) 中等4年
宗教	カソリック(44.4%)プロテスタント(33.1%)モデグイ(11.1%)	初等教育就学率	98.5%(1995年)
国連加盟	1994年12月	識字率	92%
世銀・IMF加盟	未加盟	人口密度	35.3人/km ² (1995年)
		人口増加率	2.11%(1995年)
		平均寿命	-
		5歳児未満死亡率	1.00%(1995年)
		カロリー供給率	-

経済指標			
通貨単位	米ドル	貿易量	86.7百万ドル(1996年)
為替レート	1ドル=139円(1998年7月)	輸出	14.3百万ドル
会計年度	10月～9月	輸入	72.4百万ドル
国家予算	33.4百万ドル(1994年度)	輸入カバー率	-
歳入	67.2百万ドル	主要輸出品目	水産物
歳出	75.1百万ドル	主要輸入品目	燃料、食料、嗜好品
国際収支	△58.1百万ドル	日本への輸出	-
ODA受取額	141.8百万ドル(1995年)	日本からの輸出	-
国内総生産(GDP)	118百万ドル(1995年)		
一人当りGNP	6,827ドル(1995年)	外貨準備総額	-
GDPの産業別構成	農業 6.9%	対外債務残高	3百万ドル(1996年)
	鉱工業 9.8%	対外債務返済率	-
	サービス業 83.3%	インフレ率	1～3%
産業別雇用	農業 9.3%		
	鉱工業 15.0%	国家開発計画	2000年～2020年
	サービス業 75.7%	経済開発計画	1995年から1999年
経済成長率	10% (1997年 GDP)		

気象(1966年～1995年平均)		場所:コロール											
月	1	2	3	4	5	6	7	8	9	10	11	12	平均/計
最高気温	30.5	30.6	30.8	31.3	31.4	31.0	30.7	30.6	30.9	31.0	31.3	30.9	30.9℃
最低気温	23.9	23.9	24.0	24.3	24.4	24.2	24.0	24.2	24.4	24.4	24.4	24.2	24.2℃
平均気温	27.2	27.2	27.4	27.8	27.9	27.6	27.3	27.3	27.7	27.7	27.9	27.5	27.6℃
降水量	276.1	209.6	218.2	229.6	326.1	418.3	439.4	387.8	319.5	339.8	285.7	312.2	3,762mm
雨期/乾期	移行期			乾期			雨期			移行期			

我が国における ODA の実績		(資金協力は約束額ベース、単位：億円)			
項目	年度	1993	1994	1995	1996
	技術協力		2,893	3,117	3,297
無償資金協力		2,245	2,079	2,127	2,166
有償資金協力		3,654	3,683	3,825	3,908
総額		8,792	8,879	9,249	9,558

当該国に対する我が国 ODA の実績		(支出総額、単位：億円)			
項目	年度	1993	1994	1995	1996
	技術協力		0.36	0.25	0.22
無償資金協力		6.91	6.91	3.78	14.74
有償資金協力		—	—	—	—
総額		7.27	7.16	4.00	15.92

当該国に対する ODA 諸国の経済協力実績 (1995 年)						
	贈与(1)		有償資金協力 (2)	政府開発援助 (ODA) (1)+(2)=(3)	その他政府資金 及び民間資金 (4)	経済協力総額 (3)+(4)
		技術協力				
二国間援助 (主要供与国)	—	—	—	—	—	141.7
1.アメリカ	—	—	—	—	—	132.0
2.オーストラリア	—	—	—	—	—	0.2
3.日本	—	—	—	—	—	9.5
多国間援助 (主要援助機関)	—	—	—	—	—	—
1.IDB	—	—	—	—	—	—
2.UNPA	—	—	—	—	—	0.1
その他	—	—	—	—	—	—
合計	—	—	—	—	—	141.8

出典：ODA 白書、1997 発行年月日：1997 年 10 月

JICA