

PART IV: INTERVIEW SERVEY FOR COASTAL VULNERABILITY OF FONGAFALE ISLET

Section 2: Data Book

1. Questionnaire Sheet for Coastal Vulnerability of Fongafale Island

QUESTIONAIR FOR VULNERABILITY OF FONGAFALE ISLAND

KAINA OTE TAFATAI:

- Q1. MATA TEONE I Tafa o tou fale e gasolo o uke (lasi) io me gasolo o mutana (seai)
 MUTANA UKE SEAI SE MAFULIGA
- Q2. NE KAMATA ANA FEA TE KAINA OTE TAFATAI?
 TAUSAGA NEI 2-3 TAUSAGA KO TEKA 5 TAUSAGA KO TEKA MAI MUA ATU LOA
- Q3. NEA MEA NE FAKAMASEIGINA NE TE KAINA OTE TAFATAI?
 LAKAU OLA FALE MANAFA
 SEAI NE MEA FAKAMASEIGINA

TAI LASI:

- Q4. MATA TOU FALE MOTE MANAFA E NOFO KOE IEI E POKOTIA SALE ITE TAI LASI.
 IKAI SE POKOTIA AO FAKATASI AO 2-3 TAIMI AO POKOTIA SALE I TAI LASI
- Q5. MAFAI TAU TALI KITE FESILI 4 AO, PEFEA TE MALUGA OTE TAI.
 MALALO – IFO ITE FOLA
 MALUGA ATU ITE FOLA
 SE POKOTIA ITE TAI LASI
- Q6. NE VAU MAI FEA TE TAI
 MAI PUPUGA OTE LAUKELE GALU MAI TE NAMO
 GALU MAI TUAFENUA SEILOA NE AU
- Q7. PEFEA TE LEVA OTE TAI LASI.
 NAI ITULA TASI TE ASO LUA ASO TUPU VAIASO TUPU
- Q8. NEA MEA E FAKAMASEIGINA NE TE TAI LASI.
 TAOFI MEA FAKATELETELE LAKAU OLA/ LAKAU KAINA
 FAKAVAE O FALE MEA FALE (TAIPOLA / NOFOGA)

GALU LASI:

- Q9. MATA KOOTI NE POKOTIA (PEI) TOU FALE NE GALU LASI.
 IKAI IKAI TE PISI TAI FUA MAI TUAFENUA I GALU LASI
 IKAI TE PISI TAI FUA MAI TE NAMO I GALU LASI AO POKOTIA SALE TAKU FALE I GALU LASI
- Q10. NEA MEA E FAKAMASEIGINA NE GALU LASI (E MAFAI O SILIA ATU ITE TASI TAUTALI)
 AUALA KE PONO LAKAU OLA / LAKAU KAINA MATE TAKU FALE FAKAMASEIGINA
 E ISI NE TINO MOTOU KAIGA NE PAKIA E MANAKOGINA KE FAKAMASIKI KISE KOGA FENUA SE POKOTIA

VAI KELI SOFIA NE TAI:

- Q11. E ISI SE VAIKELI I TAFI OTOU FALE.
 AO E ISI TE VAIKELI I TAFI TOKU FALE IKAI SEAI SE VAIKELI I TAFI TOKU FALE
KAFI TAU TALI (AO) FAKAMOLEMOLE TALI FESILI Q12 & Q13
KAFI TAU TALI (IKAI) FANO KITE FESILI Q14
- Q12. E FAKAOGA PEFEA VAI MAI TE VAIKELI.
 INU / KUKA KOUKOU / TAGATU FAKASUSU FATOAGA KOSE FAKAOGA
- Q13. MATA E VAISUALUA TE VAIKELI.
 AO KO LEVA NE VAISUALUA AO FATOA VAISUALUA FUA IKAI SE VAISUALUA
FAKAMATALAGA E UIGA MO KOE
- Q14. AU SE TAGATA FAFINE
- Q15. TAUSAGA OTOU OLAGA.
 10 - 20 21 - 30 31 - 40 41 - 50 51 - 6 61 KI LUGA
- Q16. KOOI TE IGOA OTE FAKAI / FENUA NE FANAU IEI KOE?
 FONGAFALE FUNAFALA TENGAKO MAI TUA O TUVALU NUI
 AMATUKU NANUMEA NANUMAGA NIUTAO NUKULAEAE
 NUKUFETAU VAITUPU NIULAKITA
- Q17. SEA TAU GALUE TUMAU?
 GALUE ITE MAALO MATAGALUEGA OTE KAUFKA GALUE I KAMUPANE
 PISINISI FOLIKI MATAGALUEGA TOKILAKAU NISI GALUEGA AKA
- Q18. E FIA TE LEVA NE NOFO EI KOE ITE KOGAKOGA TENFI?
 SE SILIA ITE 5 TAUSAGA 5 KITE 10 TAUSAGA E SILIA KITE 10 TAUSAGA
- Q19. I OI TE MANAFA NE FAKATU IEI TOU FALE?
 I OKU TE MANAFA MANAFA OKU MATUA SE I OKU TE MANAFA
- Q20. KOOI TE FAKAI E NOFO IEI KOE?
 ALAPI FAKAI FOU SENALA VAIKU LOFEAGAI
 KAVATOETOE ASAGA TAU PAKA
- Q21. KAFI E ISI NE OU MAFAUFAUGA KITE POKOTIAGA OTE TAI FANAKA. FAKAMOLEMOLE TUSI MAI LALO OU MAFAUFAUGA.

FAKAFETAI LASI LASI MO TOU FESOASOANI

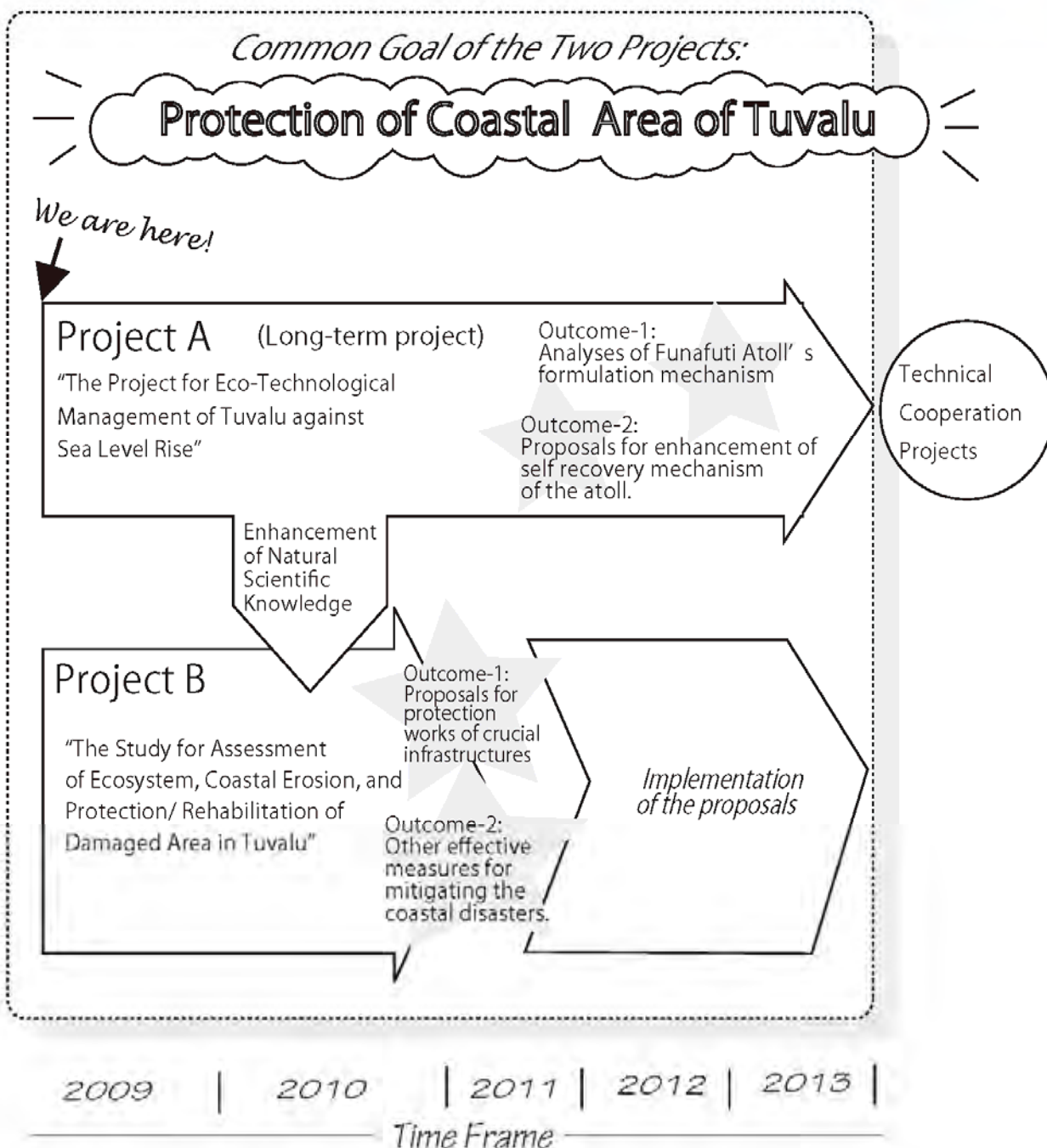
2. Brochures of the Study

This is an outline of programme we are proceeding.

Cool Earth Partnership



The two government agreed to implement two intergrated projects described below, on January 22, 2009.



3. Summary of Questionnaire Result

Team	Erosion				Inundation				High Waves				Well				Yourself				Q21 Free Answer
	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15	Q16	Q17	Q18	Q19	Q20	
A_268	1	4	1	4	1	1	3	1	1	1	2	1	1	1	5	6	3	3	2	The government have to do something before SLR. Ex. Seawall	
A_269	1	4	1	4	1	3	1	1	1	2	1	1	2	2	4	6	3	3	2	We need to leave this place and migrate to other island.	
A_270	3	4	1	4	1	1	1	1	1	2	1	1	2	4	8	6	3	3	2		
A_275	3	4	1	3	1	3	1	1	1	2	1	1	2	2	4	4	3	1	2		
A_286	1	4	1	4	1	4	1	1	4	1	1	1	1	3	2	3	1	6	3	2	3
A_290	1	4	1	4	1	3	1	1	3	1	1	1	2	2	4	4	1	2	1	Big countries should reduce using GHE gases.	
A_295	1	4	1	2	1	2	3	1	1	2	1	1	2	1	4	4	3	2	3		
A_318	1	4	1	1	1	3	1	1	1	2	1	1	2	2	3	4	2	2	3		
A_322	1	4	1	4	1	1	1	1	1	2	1	1	2	2	1	1	3	3	3	I'm hoping to migrate to better country.	
A_324	1	4	1	1	3	1	1	1	1	2	1	1	2	2	2	1	2	3	3	I am very afraid of sea level rising...	
A_Seme	1	4	1	1	2	1	1	1	1	2	1	1	2	1	2	6	3	1	2	We should shift to better place.	
B_4	1	3	1	4	1	2	1	1	1	2	1	1	2	2	3	1	6	3	3	We need higher and stronger seawall.	
B_6	1	3	1	4	3	2	1	1	1	2	1	1	2	1	4	1	6	3	3	Can our land be raised above the estimated sealevel?	
B_11	1	3	1	1	2	2	4	1	1	2	1	1	2	2	1	1	6	2	1	Let everyone think & care for our envt.	
B_14	1	2	1	4	1	2	2	1	1	2	1	1	2	2	1	1	6	2	1		
B_15	1	3	1	4	2	2	7	1	1	2	1	1	2	2	4	4	4	3	2	(T)	
B_16	1	4	1	2	1	2	1	1	1	2	1	1	2	2	3	1	4	2	1	Help us minimize the problem.	
B_18	1	4	1	4	2	3	1	1	1	2	1	1	2	1	4	2	3	3	2	Protect the island from SLR.	
B_20	1	4	1	4	3	1	3	1	1	2	1	1	2	2	2	1	4	1	2	There is no place better (than Tuvalu) to live.	
B_23	1	4	1	4	1	2	3	1	1	2	1	1	2	2	4	1	1	1	1	We need help from you, such as seawall.	
B_24	1	4	1	4	1	2	3	1	1	2	1	1	2	2	3	1	6	3	1	Help us protect our country.	
B_25	1	4	1	4	1	2	1	1	1	2	1	1	2	2	5	10	3	3	1	We need good support (ex. Seawall / reclamation)	
B_26	1	3	1	4	1	2	1	1	1	2	1	1	2	2	4	1	4	3	2	I'm OK to leave this island. We will be back when sea level return to normal level.	
B_27	1	4	1	1	1	3	1	1	1	2	1	1	2	1	2	1	4	3	2		
B_28	1	4	1	1	1	2	3	1	1	2	1	1	2	1	6	3	3	1	1	(T)	
B_29	1	4	1	1	1	2	1	1	1	2	1	1	2	2	3	1	6	3	2	We need help.	
B_32	1	4	1	4	1	2	2	1	1	2	1	1	2	1	5	1	4	3	2	All we need is your help.	
B_33	1	4	1	1	3	2	4	1	1	2	1	1	2	1	2	1	1	3	1	Pls. build a seawall at lagoon side	
B_35	1	4	1	2	1	2	1	1	1	2	1	1	2	2	4	1	6	3	1		
B_36	1	4	1	4	1	3	1	1	1	2	1	1	2	2	4	10	4	1	3	1	We need help from you.
B_37	1	4	1	1	2	1	1	1	1	2	1	1	2	2	2	1	3	2	1	SLR is a big issue. Pls. protect and prevent effects of SLR..	
B_38	1	4	1	4	1	2	3	1	1	2	1	1	2	2	5	1	6	3	1	(T)	
B_41	1	4	1	3	1	2	3	1	1	2	1	1	2	1	5	1	3	1	1	Make a seawall.	
B_42	1	4	1	4	1	2	3	1	1	2	1	1	2	2	4	7	4	3	2	We need help from our friend like you.	
B_43	1	4	1	4	1	2	2	1	1	2	1	1	2	2	6	1	6	3	2	1	
B_44	1	4	1	1	1	2	1	1	1	2	1	1	2	2	2	8	6	1	3	1	
B_46	1	4	1	1	1	2	1	1	1	2	1	1	2	1	4	4	5	1	1	Plant trees and mangroves, build seawall.	
B_48	3	4	1	1	4	1	1	1	1	2	1	1	2	1	2	4	6	1	3	1	
B_49	1	4	1	1	1	2	1	1	1	2	1	1	2	2	5	5	6	3	1	1	We still need your help.

Team	Erosion				Inundation				High Waves				Well		Yourself						Q20 Q21 Free Answer	
	Q1	Q2	Q3	Damages?	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15	Q16	Q17	Q18	Q19		
B 129	3	4	1	1	2	1	1	1	1	1	1	1	1	2	1	6	12	4	3	3	1	The world should stop polluting our envt. We receive the effect the most.
B 130	3	4	1	1	1	1	1	1	1	1	1	2	2	2	5	12	3	2	3	1	1	We need to plant trees and seawalls.
B 131	3	4	1	1	2	1	1	1	1	1	1	1	1	2	6	7	1	3	1	1	1	SLR is big problem. We need to migrate for surviving.
B 132	3	4	1	1	1	1	1	1	1	1	1	1	2	1	4	4	1	3	1	1	1	We have SLR. We need help.
B 133	3	4	1	1	1	1	1	1	1	1	1	2	2	1	4	13	4	3	1	1	1	We need good seawall.
B 135	1	4	1	1	4	1	1	1	1	1	1	2	2	1	4	1	6	3	2	1	1	SLR causing erosion. We want the countermeasures.
B 136	1	4	1	1	1	1	1	1	1	1	2	2	2	1	2	1	3	3	1	1	1	High tide causes many troubles. Support from overseas donors are appreciated.
B 144	1	4	1	1	4	1	2	3	4	1	1	2	2	4	7	1	3	3	1	1	1	Mitigation
B 146	1	4	1	1	1	1	1	1	1	1	1	2	2	4	12	6	2	3	1	1	1	We have to prepare or will have to migrate to another island.
B 147	1	4	1	1	4	1	1	1	1	1	1	2	2	5	8	4	1	3	4	1	1	
B 148	1	4	1	1	1	1	1	1	1	1	2	2	2	2	7	1	3	3	4	1	1	
B 149	1	4	1	1	1	1	1	1	1	1	1	2	2	1	3	10	1	3	3	4	1	
B 150	1	4	1	1	1	3	1	1	1	1	1	2	2	1	3	4	1	2	3	4	1	
B 153	1	4	1	1	1	1	1	1	1	1	1	2	2	1	3	4	1	2	3	4	1	
B 154	1	4	1	1	1	1	1	1	1	1	2	2	2	2	6	9	6	3	3	4	1	
B 155	1	4	1	1	1	1	1	1	1	1	2	2	2	4	7	6	1	1	4	1	1	
B 156	1	4	1	1	1	1	1	1	1	1	2	2	2	2	7	1	3	4	1	1	1	
B 158	1	4	1	1	4	1	1	1	1	1	2	2	2	4	9	6	3	3	4	1	1	
B 160	1	4	1	1	1	1	1	1	1	1	2	2	2	3	9	6	2	3	4	1	1	
B 161	1	4	1	1	1	1	1	1	1	1	2	2	2	1	3	7	6	1	3	4	1	
B 164	3	1	1	1	2	1	1	1	1	1	1	2	2	5	4	1	3	3	4	1	1	
B 165	1	4	1	1	1	1	1	1	1	1	2	2	2	2	6	12	4	3	2	4	1	
B 168	1	2	1	1	1	2	1	1	1	1	2	2	2	2	1	6	1	3	4	1	1	
B 169	1	4	1	1	4	1	1	1	1	1	2	2	2	1	12	1	1	3	4	1	1	
B 170	1	4	1	1	1	1	1	1	1	1	2	2	2	1	5	9	1	1	3	4	1	
B 171	1	4	1	1	1	1	1	1	1	1	2	2	2	1	3	7	6	1	3	4	1	
B 172	1	4	1	1	1	1	1	1	1	1	2	2	2	1	3	9	6	1	3	4	1	
B 174	1	4	1	1	1	1	1	1	1	1	2	2	2	2	7	6	3	3	4	1	1	
B 175	3	4	1	1	1	1	1	1	1	1	2	2	2	2	5	7	6	3	3	3	1	
B 176	3	2	1	1	3	4	2	1	1	1	1	1	1	1	4	1	6	1	1	3	1	
B 177	1	4	1	1	4	1	1	1	1	1	2	2	2	1	5	8	3	3	1	1	1	
B 178	1	4	1	1	4	1	1	1	1	1	2	2	2	1	2	1	3	1	3	1	1	
B 179	1	4	1	1	1	1	1	1	1	1	2	2	2	1	6	1	6	3	1	3	1	
B 180	1	4	1	1	4	1	1	1	1	1	2	2	2	2	4	1	1	1	3	3	1	
B 183	3	4	1	1	4	1	1	1	1	1	2	2	2	2	1	4	3	1	3	1	1	
B 186	1	4	1	1	4	1	1	1	1	1	2	2	2	2	5	13	6	1	3	3	1	
B 190	1	1	1	1	2	1	1	1	1	1	2	2	2	1	6	3	1	3	1	1	1	
B 192	3	4	1	1	2	3	1	1	1	1	2	2	2	1	2	1	6	3	2	3	1	
B 193	1	4	1	1	1	4	4	1	1	1	2	2	2	1	2	1	6	1	1	3	1	

Team	Erosion				Inundation				High Waves				Well				Yourself				Q20 Q21 Free Answer
	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15	Q16	Q17	Q18	Q19		
Sq. #	Changes of beach?	When the change began?	Plants Building Land No damage	House/land inundated before?	Highest level of water?	Where did the salt water come from? From the ground Ocean side (surface water) Lagoon side (surface water) I don't know.	The longest duration of inundation?	What was the damage by inundation? Traffic Plants Build/ Foundation Furniture	Have you experienced waves hit your house? No, but wave water flew in from Yes, waves hit my house	What are the damage by waves? Road closed Plants House damage Injured Evacuation needed	Is there a well nearby?	What is the usage? Drinking Washing/toilet Agriculture	Q11 Well used for?	Age?	Name of the island you were born?	What is your/dependants occupation?	How long have you lived in your present village?	Is the land belong to you?	Which village are you living in now?		
C 23	3	1	1	4	1	2	3	1	3	1	1	1	1	1	1	1	1	1	1	1	
C 24	1	2	1	1	3	1	4	1	3	1	1	1	1	1	1	1	1	1	1	1	
C 26	1	4	1	4	2	2	4	1	4	1	1	1	1	1	1	1	1	1	1	humasa	
C 29	1	4	1	4	2	3	4	1	4	1	1	1	1	1	1	1	1	1	1	humasa	
C 30	3	4	1	4	1	4	4	1	1	1	1	1	1	1	1	1	1	1	1	humasa	
C 32	1	4	1	4	1	2	3	1	1	1	1	1	1	1	1	1	1	1	1	humasa	
C 35	1	2	1	2	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	humasa	
C 38	1	4	1	4	1	3	3	1	4	1	1	1	1	1	1	1	1	1	1	humasa	
C 41	1	4	1	4	1	3	3	1	1	1	1	1	1	1	1	1	1	1	1	humasa	
C 43	1	4	1	4	1	3	4	1	4	1	1	1	1	1	1	1	1	1	1	humasa	
C 45	3	4	1	4	1	3	3	1	1	1	1	1	1	1	1	1	1	1	1	humasa	
C 46	1	4	1	3	2	2	4	1	4	1	1	1	1	1	1	1	1	1	1	humasa	
C 48	1	2	1	2	1	3	4	1	4	1	1	1	1	1	1	1	1	1	1	humasa	
C 49	1	4	1	2	1	3	1	1	1	1	1	1	1	1	1	1	1	1	1	humasa	
C 52	1	4	1	4	1	3	1	1	1	1	1	1	1	1	1	1	1	1	1	humasa	
C 54	1	4	1	4	1	3	4	1	3	1	1	1	1	1	1	1	1	1	1	humasa	
C 55	1	4	1	4	1	3	3	1	1	1	1	1	1	1	1	1	1	1	1	humasa	
C 56	1	4	1	4	1	3	3	1	3	1	1	1	1	1	1	1	1	1	1	humasa	
C 59	1	4	1	4	1	2	3	1	1	1	1	1	1	1	1	1	1	1	1	humasa	
C 66	3	4	1	4	1	2	3	1	1	1	1	1	1	1	1	1	1	1	1	humasa	
C 72	3	4	1	4	1	2	4	1	4	1	1	1	1	1	1	1	1	1	1	humasa	
C 74	1	4	1	4	1	4	4	1	1	1	1	1	1	1	1	1	1	1	1	humasa	
C 77	3	4	1	4	2	2	3	1	1	1	1	1	1	1	1	1	1	1	1	humasa	
C 79	3	4	1	4	1	2	3	1	1	1	1	1	1	1	1	1	1	1	1	humasa	
C 84	3	4	1	4	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	humasa	
C 88	1	4	1	4	1	2	3	1	4	1	1	1	1	1	1	1	1	1	1	humasa	
C 90	1	4	1	4	1	3	4	1	4	1	1	1	1	1	1	1	1	1	1	humasa	
C 93	3	4	1	4	1	2	3	1	4	1	1	1	1	1	1	1	1	1	1	humasa	
C 99	3	4	1	4	1	2	3	1	4	1	1	1	1	1	1	1	1	1	1	humasa	
C 102	3	4	1	4	1	2	3	1	4	1	1	1	1	1	1	1	1	1	1	humasa	
C 106	1	4	1	4	2	3	4	1	4	1	1	1	1	1	1	1	1	1	1	humasa	
C 110	3	4	1	1	3	1	1	1	2	3	1	1	1	1	1	1	1	1	1	humasa	
C 116	3	4	1	1	1	1	1	1	2	3	1	1	1	1	1	1	1	1	1	humasa	
C 118	1	4	1	1	3	1	3	1	1	1	1	1	1	1	1	1	1	1	1	humasa	
C 121	3	4	1	4	1	1	3	1	1	1	1	1	1	1	1	1	1	1	1	humasa	
C 124	1	4	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	humasa	
C 127	1	4	1	1	1	1	4	3	1	1	1	1	1	1	1	1	1	1	1	humasa	
C 128	1	4	1	1	4	1	3	1	1	1	1	1	1	1	1	1	1	1	1	humasa	
C 132	1	4	1	1	1	1	3	1	1	1	1	1	1	1	1	1	1	1	1	humasa	

Team	Sup #	Erosion				Inundation				High Waves				Well				Yourself				Q20 Q21 Free Answer					
		Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15	Q16	Q17	Q18	Q19	Q20		Q21				
		Changes of beach?	When the change began?	Plants	Building	Land	No damage	House/land inundated before?	Highest level of water?	Q4 Q5	Q6 Where salt water came from?	Q7	Q8 Damage?	Q9 Waves?	Q10 Damage?	Q11	Q12 Well used for?	Q13	Q14	Q15	Q16	Q17	Q18	Q19	Q20	Q21	
				From the ground	Ocean side (surface water)	Lagoon side (surface water)	I don't know.	The longest duration of inundation?	What was the damage by inundation?	Have you experienced waves hit your house?	Yes, waves hit my house.	No, but wave water flew in rd.	No, but wave water flew in rd.	What are the damage by waves?	Is there a well nearby?	Drinking	Agriculture	Abandoned	Is the water salty?	Age?	Name of the island you were born?	What is your/dependants occupation?	How long have you lived in your present village?	Is the land belong to you?	Which village are you living in now?		
A	207	1	4	1	1	3	1	3	1	3	1	1	1	2	2	2	2	2	2	2	5	7	6	3	3	2	
A	209	1	4	1	4	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	5	4	1	1	3	2	We just have to wait, and have faith.
A	210	1	4	1	4	1	1	3	1	2	1	1	1	1	2	2	2	2	2	2	4	12	6	3	3	2	If it's true, we need support from the gov't and Japan
A	212	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	6	7	4	3	3	2	"Move people to better places"
A	214	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	3	1	4	3	3	2	
A	218	1	4	1	4	1	1	2	1	1	1	1	1	1	1	1	1	1	3	2	5	4	1	3	3	2	
A	226	1	1	1	2	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	3	11	1	1	3	2	
A	230	3	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	1	6	4	4	3	3	2	
A	237	1	1	1	1	3	1	3	1	1	1	1	1	1	2	2	2	2	2	1	5	11	1	3	3	2	
A	251	1	4	1	3	1	1	1	1	1	1	1	1	1	2	2	2	2	2	1	2	4	3	1	2	2	Please take us somewhere like Australia.
A	256	3	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	1	5	7	4	3	3	2	The government have to do something before SLR
A	259	3	4	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	1	2	4	6	3	3	2	
A	262	3	4	1	1	3	1	1	1	1	1	1	1	1	2	2	2	2	2	2	6	4	6	3	3	2	I think SLR might not be happening, hoping so.
A	263	3	4	1	4	1	1	1	1	1	1	1	1	1	2	2	2	2	2	3	12	1	3	2	2	2	Migration to better place is really necessary.
A	264	2	1	1	1	3	1	1	1	1	1	1	1	1	2	2	2	2	2	1	8	6	3	2	3	2	I strongly hope to migrate other island with my family.
A	274	1	1	1	1	3	1	1	1	1	1	1	1	1	2	2	2	2	2	6	1	6	2	3	3	2	
A	276	1	4	1	1	3	1	3	1	1	1	1	1	1	2	2	2	2	1	5	9	3	3	3	2	2	Find ways to save us from sea level rising
A	278	1	4	1	1	3	1	1	1	1	1	1	1	1	2	2	2	2	2	4	12	6	3	1	2	2	I'm very afraid of sea level rising.
A	279	1	4	1	1	3	1	4	1	1	1	1	1	1	2	2	2	2	3	2	4	4	3	1	2	2	I'm so scared of sea level rising
A	280	3	1	1	1	3	1	1	1	1	1	1	1	1	2	2	2	2	1	1	5	1	3	3	2	2	I'm afraid of sea level rising.
A	281	1	1	1	4	1	1	3	1	1	1	1	1	1	2	2	2	2	2	3	4	6	1	3	2	2	I'm so worried about sea level rising & future of our family
A	286	3	1	1	1	3	1	1	1	1	1	1	1	1	2	2	2	2	2	1	6	4	6	2	3	3	
A	287	1	4	1	4	1	2	1	1	1	1	1	1	1	2	2	2	2	2	4	11	3	2	3	3	3	We should prepare for whatever comes to our life.
A	288	1	4	1	4	1	2	4	1	1	1	1	1	1	2	2	2	2	2	1	4	6	2	3	3	3	I'm so worried about SLR
A	289	1	4	1	1	3	1	1	1	1	1	1	1	1	2	2	2	2	2	6	12	1	1	2	2	2	I want to ask whatever you can for helping us against sea level rise.
A	291	3	4	1	1	3	1	1	1	1	1	1	1	1	2	2	2	2	2	5	4	3	1	2	2	2	
A	291	3	1	1	1	3	1	1	1	1	1	1	1	1	2	2	2	2	2	6	4	6	3	2	3	2	I'm afraid of sea level rising.
A	294	3	1	1	1	3	1	1	1	1	1	1	1	1	2	2	2	2	2	2	11	6	3	3	3	2	
A	297	1	4	1	1	3	1	3	1	1	1	1	1	1	2	2	2	2	2	3	4	3	1	2	2	2	Land elevation is too low to live.
A	298	3	4	1	1	3	1	3	1	1	1	1	1	1	2	2	2	2	2	1	2	4	1	3	3	2	I am worried for I don't know when sea level will rise.
A	299	3	1	1	1	3	1	1	1	1	1	1	1	1	2	2	2	2	2	5	11	6	2	3	3	2	
A	300	3	1	1	1	3	1	1	1	1	1	1	1	1	2	2	2	2	2	3	4	4	2	3	3	2	
A	301	1	4	1	1	3	1	1	1	1	1	1	1	1	2	2	2	2	2	5	1	6	1	3	3	2	
A	302	3	4	1	1	3	1	1	1	1	1	1	1	1	2	2	2	2	2	1	2	5	6	3	3	3	
A	303	3	4	1	1	3	1	1	1	1	1	1	1	1	2	2	2	2	2	1	4	4	1	3	3	2	
A	304	3	4	1	1	3	1	1	1	1	1	1	1	1	2	2	2	2	2	5	9	4	3	1	3	2	
A	305	1	4	1	1	3	1	1	1	1	1	1	1	1	2	2	2	2	2	1	5	1	3	1	3	3	Gov't shold do something to save people from sea level rising.
A	309	3	1	1	1	3	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	12	6	3	3	3	

Team	Sq. #	Erosion				Inundation				High Waves				Well				Yourself					
		Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15	Q16	Q17	Q18	Q19	Q20	Q21	
		Changes of beach?	When the change began?	Plants Building Land No damage	House/land inundated before?	Highest level of water?	Where did the salt water come from? From the ground Ocean side (surface water) Lagoon side (surface water) I don't know.	The longest duration of inundation?	What was the damage by inundation? Traffic Plants Build, Foundation Furniture	Have you experienced waves hit your house? Never No, but wave water flew in from Yes, waves hit my house.	Q9 Waves? What are the damage by waves? Road closed Plants House damage Injured Evacuation needed	Q10 Damage? Is there a well nearby? Drinking Washing/toilet Agriculture Abandoned	Q11 Well used for? Is the water salty?	Sex?	Age?	Name of the island you were born?	What is your/dependants occupation?	How long have you lived in your present a	Is the land belong to you?	Which village are you living in now?			
C 232	1	4	4	4	1	1	3	1	4	1	1	1	1	1	1	1	1	1	1	1	1	1	1
C 236	1	4	4	4	1	2	4	4	1	1	1	1	1	1	3	5	6	2	3	3	5	5	5
C 237	3	1	1	1	3	4	1	1	1	1	2	2	1	1	3	1	3	1	3	3	5	5	5
C 238	1	4	3	3	2	3	3	1	1	1	1	2	1	2	6	4	4	3	3	5	5	5	5
C 239	1	2	3	3	1	3	3	1	1	1	1	1	1	1	3	12	6	2	2	5	5	5	5
C 242	1	4	3	3	3	3	3	1	1	1	2	2	1	1	5	1	6	2	1	5	5	5	5
C 247	3	2	1	1	3	4	1	1	1	1	2	2	2	2	4	12	3	3	3	5	5	5	5

PART V: CONSENSUS BUILDING

Section 1: Supporting Report

1. Presentation for the Public Hearing

1.1 1st Public Hearing



Outline of presentation

1. Outline of Study
2. What J-PACE have Found
3. What WE will Do
4. What YOU will be Requested
5. Matters to be Discussed

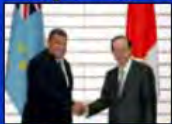
1. Outline of Study

- Background
- Objective
- Process for Plan Formulation

Background

~Why J-PACE is here?~

- 2004: Tuvalu Government formulated the National Adaptation Program of Action (NAPA), and requested assistance for sea-level rising to donors.
- 2007: Japanese Government promised to support Tuvalu.
- Jan 2009: Tuvalu government requested Japanese technical cooperation for a development planning study proposing short-term measures for the prevention of coastal erosion (J-PACE).
- Aug 2009 - J-PACE project started.



Objective

(1) To assess ecosystem, coastal erosion and protection/rehabilitation of the damaged area

↓

(2) To make a plan on sustainable measures for coastal protection /rehabilitation

(3) To strengthen capacity of institutions and communities for coastal management.

~Why YOU are here?~

J-PACE's basic policies are;

- (1) Cooperative work with Tuvalu governments, Kaupule and other related organizations
- (2) Coordination with "Forum Sand" Project

Project Coordinate Committee (PCC) is formulated

- (3) Close exchanges of opinions with local communities

Public Hearing and Seminars are organized



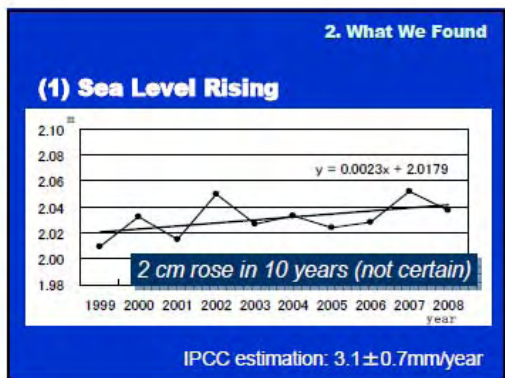
2. What We Found

- Status of sea-level rising
- Damage caused by coastal disaster
- Sand problems

Objective (1)

To assess ecosystem, coastal erosion and protection/rehabilitation of the damaged area

➔ Various surveys were conducted;

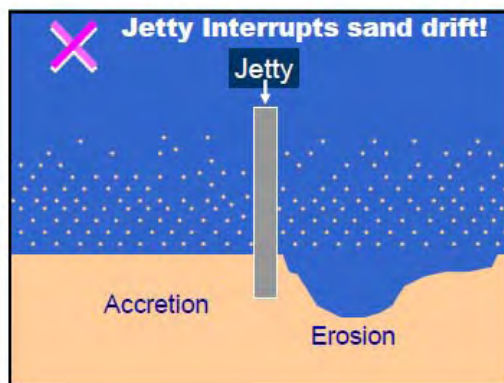
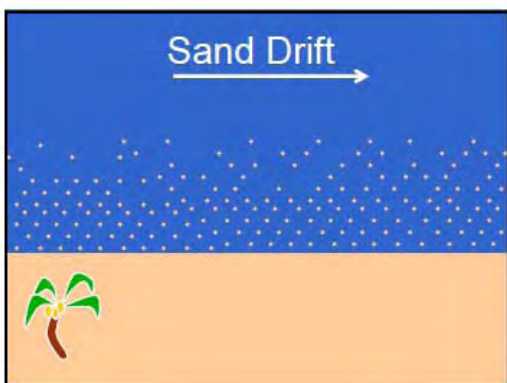
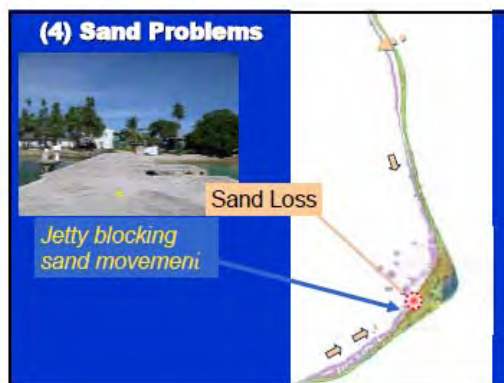
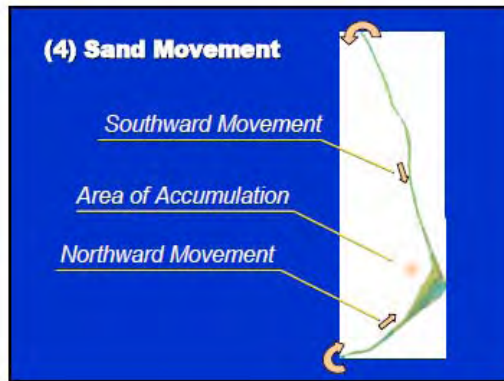


(2)-1 Damages

1) High Wave (2)
Houses Hit by Waves (Interview Survey)

(2)-2 Damages

2) Flooding
Flooding Over-floor Level (Interview Survey)





3. What We will Do

- (1) Select priority areas
- (2) Examine an appropriate coastal protection work for each area
- (3) Examine monitoring and maintenance method

(1) Select priority areas

Priority is given to coastal areas to be met the following conditions;

- ① where coastal disaster already been happened so far or will be happened in future,
- ② where the most important infrastructures exist in the hinterland,
- ③ densely populated area

Prioritization

Priority is proposed based on

- ① Disaster Experience &
- ② Population Density &
- ③ Important Public Facilities


Area #1

(2) Examine an appropriate coastal protection work


Area 1

Basic Policy: Prevent wave overtopping by increasing the wave absorbing effect.


Option 1
Seawall



Option 2
Breakwater


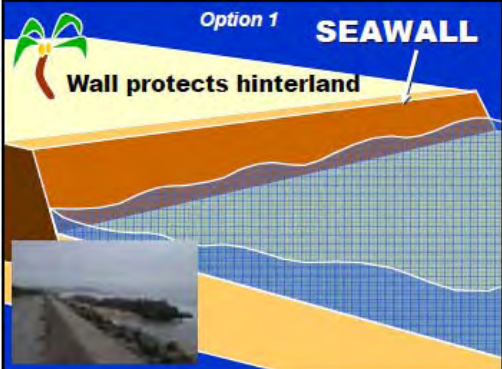


Option 3
Beach nourishment



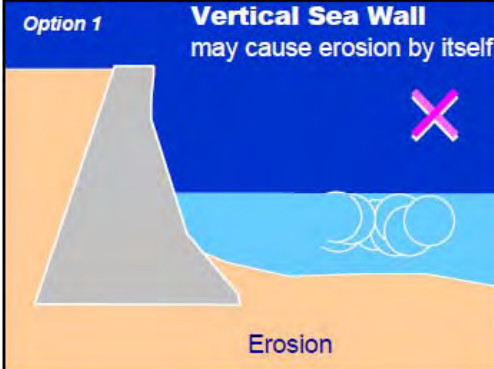
Option 1 SEAWALL

Wall protects hinterland



Option 1 Vertical Sea Wall

may cause erosion by itself



Erosion


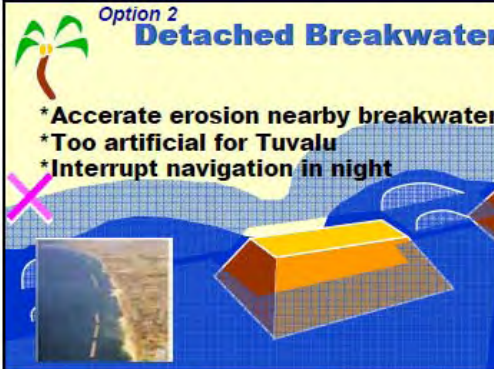
Option 2 Breakwater

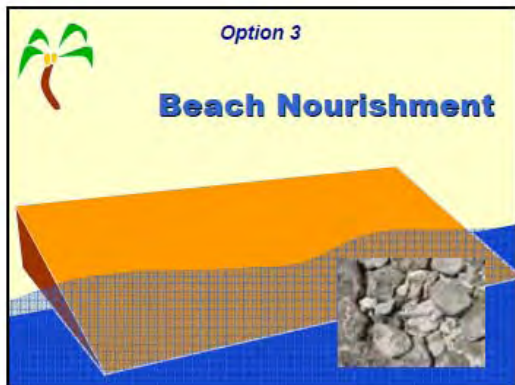
Off-shore wall protects hinterland by dissipating waves



Option 2 Detached Breakwater

- *Accelerate erosion nearby breakwater
- *Too artificial for Tuvalu
- *Interrupt navigation in night





Advantage

Advantages	<ul style="list-style-type: none">• With constant monitoring, nourishment can provide absolute protection• Effect on nearby beaches is small• Maintains beach amenity• Environment-friendly process• Visually acceptable• Lower initial capital cost compared to other methods (local materials can be utilized!)• Public access and usage is retained
------------	--



Disadvantage

Disadvantages	<ul style="list-style-type: none">• Lagoon practices may need to be amended.• Some gravels may be run up to hinterland when extreme event occurred.• Requires regular monitoring and maintenance.
---------------	---

Two small photographs are shown below the text. The left photo shows a lagoon with palm trees. The right photo shows a beach with palm trees and a concrete wall.

(3) What you will be requested

- Education and Awareness
- Monitoring and Maintenance

What you will be requested

- All residents need to be aware of the concept and the importance of beach.
- Nourishment will require periodic monitoring and maintenance
- Community involvement is a key, especially residents living beachside.

What community can do..

(Monitoring and maintenance)

- 1) Set up the COMMITTEE with governments, Kaupule, NGOs, landowners and community
- 2) Regular meeting and monitoring to be conducted.



What community can do..

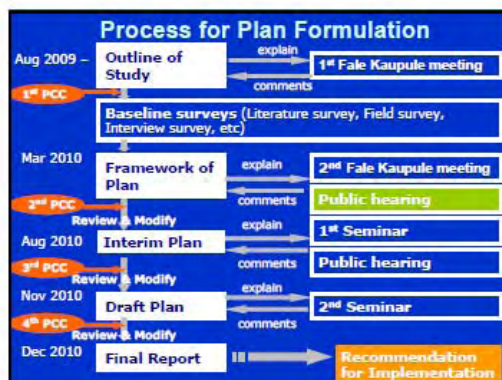
(Education and Awareness)

- 1) Education and awareness programme to be conducted.
- 2) Involve community, especially youth and children, in coastal protection activity.



We need YOUR comments on...

- Proposed appropriate coastal protection work *(Any questions on coastal disaster and nourishment etc..)*
- Education and Awareness method
- Monitoring and maintenance method *(Tell us what community can do if any)*
- Others

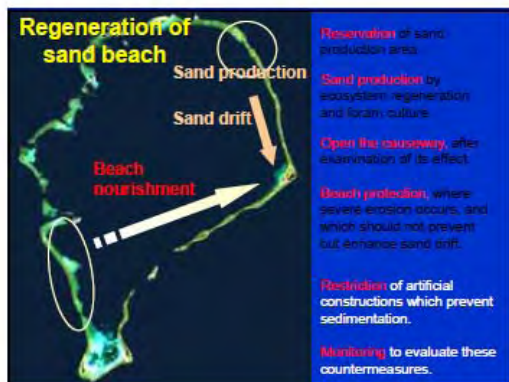
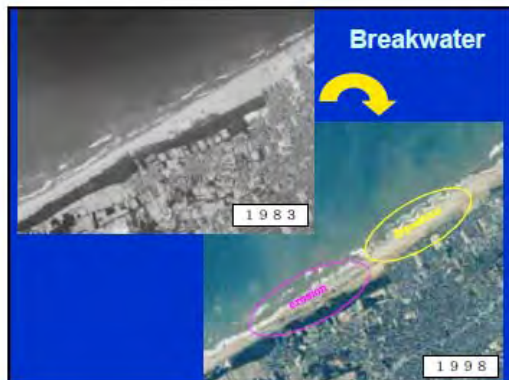


*Fafetai lasi for coming today, and See you in September!
 we also really appreciated if you could fill in the questionnaire.*



J·PACE
 Japan - Project Against Coastal Erosion





- Restoration** of sand production area.
- Sand production** by ecosystem regeneration and foram culture.
- Open the causeway**, after examination of its effect.
- Beach protection**, where severe erosion occurs, and which should not prevent out-ermaine sand drift.
- Restriction** of artificial constructions which prevent sedimentation.
- Monitoring** to evaluate these countermeasures.

1.2 2nd Public Hearing



Fakasologa o te faipatiiga

1. Fakamatalaga ki te sukesukega tenei
2. Ne mea kooti ne maua mai i te sukesukega
3. Nea fakamoemoega o te J-PACE ka fai
4. Nea manakoga
5. Mea e tau o faipatigina

1. Fakamatalaga ki te sukesukega tenei

- Fakamatalaga toetoe
- Tapula
- Fakatokapa ki te faitega o te palani

Fakamatalaga toetoe

~Kaia ko penei ei tatou?~

- 2004: Te malo o Tuvalu ne fakatu ne ia te National Adaptation Program of Action (NAPA), salasala sene akai atu ki Iua(donor).
- 2007: Tiapani ko tauto ko ia ka fesoasoani ki Tuvalu
- Jan 2009: Te malo o Tuvalu ko akai ki Tiapani ki se fesoasoani tau sene mo te atiakega tenei puiipuiga I se taimi toetoe
- Aug 2009 - : J-PACE ko kamata nei



Tapula

(1) Ke iloilo te kaina, tausiga mo te toe fakaleiga o koga ne fakamasei

↓

(2) Ke fai ne fakatokaga palani fakatumau fakamalosi te puiipuiga o tafatai

(3) Fakalauefa te iloa o tino o fakapotopotoga o fenua ki te atafai/tausiga o te tou tafatai

~Kaia ko penei tatou~

Tou fakanofonofoga konei;

- (1) Galue fakatasi te malo Tuvalu, Kaupule mo nisi fakapotopotoga kola e tau o tonu ki te atiakega tenei
- (2) Sokotakiga mo te Forum Sand Project
Project Coordinate Committee (PCC) is formulated
- (3) Fakamalosiga o manatu mai fakapotopotoga
Fonotaga mo fakapotopotoga



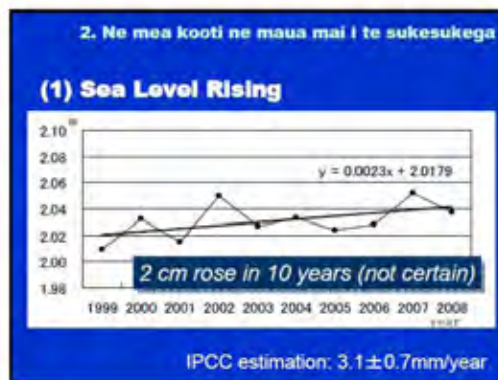
2. Ne mea kooti ne maua mai i te sukesukega

- Status of sea-level rising
- Damage caused by coastal disaster
- Sand problems

Tapula (1)

:Ke iloilo te kaina, tausiga mo te toe fakaleiga o koga ne fakamasei

→ Various surveys were conducted;



(2)-1 Damages

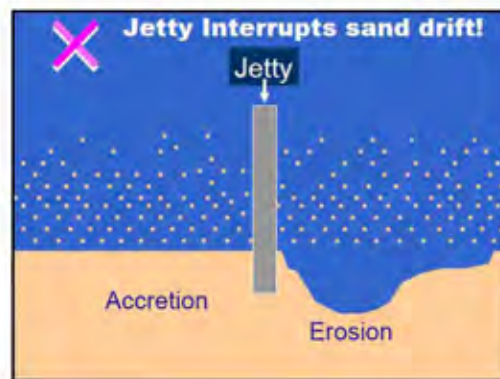
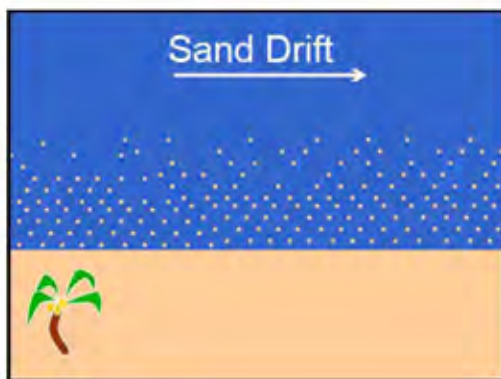
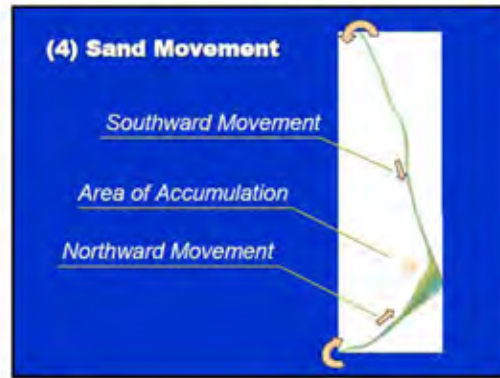
1) High Wave (2)

Houses Hit by Waves (Interview Survey)

(2)-2 Damages

2) Flooding

Flooding Over-floor Level (Interview Survey)





3. Nea fakamoemoega o te J-PACE ka fai

- (1) Fakasolo fakalei a kogaakoga kola e tau
- (2) Sukesuke fakalei ki ne auala kola e mafai ei o fakagalue a te puipuiga o tau tafatai
- (3) Sukesuke, iloiloi ki auala mo te fakaleiga o te atiakega tenei

(1) Fakatokaga/fakasologa

Fakasologa o tafatai mo olotou fakatulagaaaga;

- ① Ko fea koga kola ne lasi te fakamaseiga,
- ② Nea fakatokaga taua kola ka fakatumau
- ③ Kogakoga e tokouke tino jei

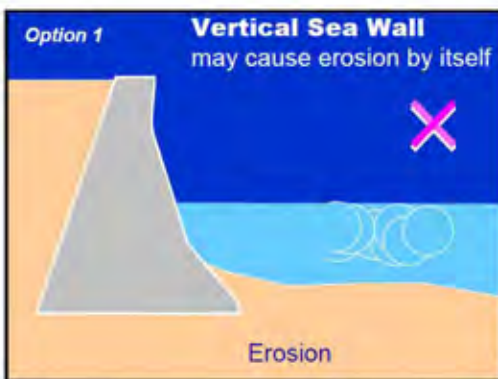
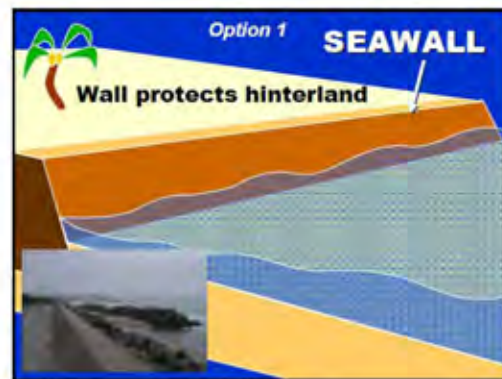
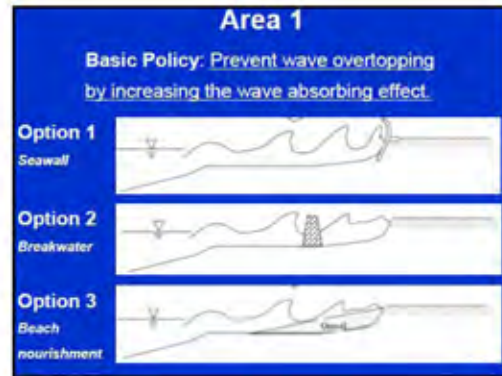
Mea taua

A mea taua ne maua mai i mea kola ko oti ne tupu

- ① Fakamaseiga kola ko oti ne iloa &
- ② Fuainumela fanaka &
- ③ Tauga o kopekopega o te fenua



(2) Sukesuke fakalei ki ne auala kola e mafai ei o fakagalue a te puipuiga o tau tafatai



Option 2
Detached Breakwater

*Accerate erosion nearby breakwater
 *Too artificial for Tuvalu
 *Interrupt navigation in night

Option 3
Beach Nourishment

Taua o te Atiakega

Feitu Lei	<ul style="list-style-type: none"> ● Fakatumau te iloiloga, fakaleiga mo te atagai ki tena pui-puiiga lei ● Fakatumau te lei o te tausiga o matafaga ● Tino katoa ke fakatauloto malie ki te faifaiga tenei ● Ke talia ne tino te kiloga tenei ● E mafai o fakaoga te faifaiga tenei I lo o nisi auala aka (e mafai o fakaoga a mea taga tatou) ● A tino katoa ka fakaoga tumau te taus o te faifaiga tenei
-----------	---

Option 3

Pokotiaga o te Atiakega

Pokotiaga	<ul style="list-style-type: none"> ● Faifaiga masani ki tou tafatai e tau o tai fakalei atu. ● A kilikili'fatu ko mafai o oko ki luga I tou fenua mafai ko isi ne mea ne tupu ● E tau ke toe onoono tatou kiel ki te toe fakafokiliga ki koga kola ko fakamaseigina ko te mea ke tumau tena tausiga.
-----------	---

(3) Nea manakoga o te atiakega tenei

- Education and Awareness
- Monitoring and Maintenance

Nea manakoga o te atiakega tenei

- Tino katoa ke maina I te atiakega
- Te lei o te tausiga o te atiakega tenei kae fakatumau tena ilolloga ki te lei I sose taimi
- E fakatau a Fakapotopotoga katoa ke kau fakatasi kae maise latou kola e nofo pili ki tafatai/matafaga

Nea mea a Fakapotopotoga e tau o fai..

(Monitoring and maintenance)

- 1) Fakatu se komiti mo te malo, Kaupule, fakapotopotoga se kau ki te malo, tino fai manafa mo fakapotopotoga a te fenua.
- 2) Fai faeloa ne fonotaga mo te ilolloga o te atiakega



Nea mea e mafai o fai ne fakapotopotoga..

(Education and Awareness)

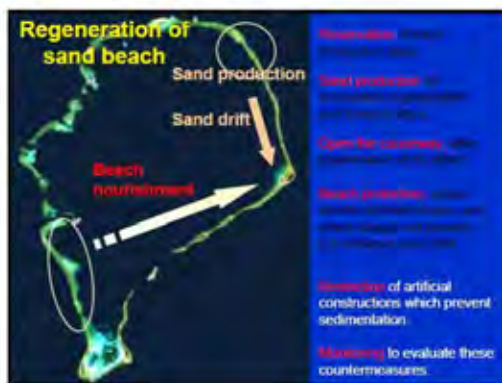
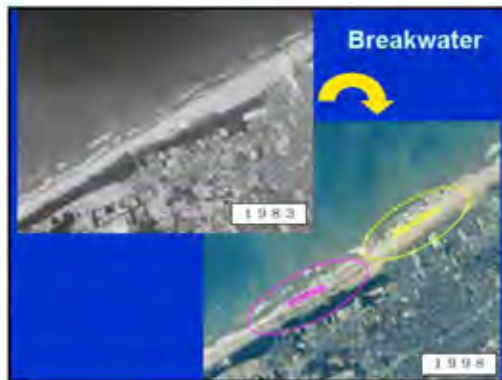
- 1) Akoakoga ke iloa ne tino. Polokalame o akoako atu a tino ke iloa ne latou
- 2) Ke aofia mai a fakapotopotoga kae maise talavou mo tamaliki ki te atiakega tenei



Manakomia otou fautuaga/fesili...

- Proposed appropriate coastal protection work *(Fesili ki te fakaleiga tausiga o tou tafatai)*
- Fakatoka auala tau akoakoga ki tino ke iloa ne latou o atafai
- Iloilo fakalei kae onono ki auala o tausi te lei o te atiakega *(Nea mea e mafai ne te fenua / fakapotopotoga o fai)*
- Others





Questions for Youth (1)

1. How are you using the priority area?
2. Will you face any difficulties caused by the implementation of the Project?
 - If yes, tell us details?
 - Any ideas to solve these difficulties?
3. Have you ever taken any action for coastal protection at the priority area?
 - If yes, what kind of action have you taken?

Questions for Youth (2)

4. Do you think the Youth can work for coastal management?
5. Is it possible for the Youth to take part in the monitoring and maintenance activity when the project implemented?
6. Are you feeling any worries or concerns for the Project from the Youth's point of view?
7. What do you think any specific activities to be implemented to the Youth before/during/after the Project?
8. Any request from the Youth?

Questions for community (1)

1. How are you using the priority area?
2. Will you face any obstacles caused by the implementation of the Project?
 - If yes, tell us details?
3. Have you ever taken any action for coastal protection at the priority area?
 - If yes, what kind of action have you taken?

Questions for community (2)

4. Do you think the community can work for coastal management?
5. Is it possible for the community to take part in the monitoring and maintenance activity when the project implemented?
6. Are you feeling any affairs or concerns for the Project from the Community's point of view?
7. What do you think any specific activities to be implemented to the Community before or during the Project?
8. Any request from the Community?

Questions for women (1)

1. Have you ever utilized at the priority area?
 - If yes, how have you utilized?
2. Will you have any obstacles for your life by the implementation of the Project?
 - If yes, what obstacles?
3. Have you ever taken any action for coastal protection at the priority area?
 - If yes, what kind of action have you taken?

Questions for women (2)

4. Do you think the women can work for coastal management?
5. Is it possible for the Women's group to take part in the monitoring and maintenance activity when the project implemented?
6. Are you feeling any affairs or concerns for the Project from Women's point of view?
7. What do you think any specific activities to be implemented to the Women before or during the Project?
8. Any request from the Women?

2. Minutes of Meeting on the Public Hearing

2.1 1st Public Hearing

MINUTES OF THE MEETING WITH THE COMMUNITY OF FUNAFUTI

11/06/10 19.00 – 20.30

Apinelu (Kaupule) – Introduction of the project and the purpose of the project and themselves. Then, he started explaining and presented the presentation.

QUESTIONS AND ANSWERS

All men – Option 3 (beach Nourishment) is selected as the best option.

Letueti (Resident) – Is there any disadvantages of the Option 2?

Yurie (J-PACE) – yes, there is, because Tuvalu is very low, so building up the water breakers, it should be more than 2-3m, it will block the view from the main land, and also people find it difficult of going out fishing.

Letueti (Resident) – View is not matters for us. We need protection against Tsunami.

Chief Community (Resident) – if the water breaker is getting higher what if you (J-PACE) make our land higher like the Water breaker?

Apinelu (Kaupule) – I think that will cause more money/ will lead us to money problem.

Letueti (Resident) – about that water breaker, how far is it from the mainland?

Yurie (J-PACE) – about 20m to 100m.

Foumalie (Resident) – And for this Option 3 – the gravels is it sustain or can be remove by the current of the sea?

Yurie (J-PACE) – no, for sure they cannot be removing by the currents of the sea.

Letueti - if this new sand is form, is it possible that the sand from the islets can be gone, or come together to stays together with the new sand, because what I have learn from you is that the sand is coming from each end of the island and stay together in the Fongafale area?

Yurie (J-PACE) – No that is not possible, if the new beach is formed, the gravel of the islets will remain where they belong. However, we have to take into consideration the place where we dig for acquirement of gravels.

Falefaea (Resident) – Is this project can overcome the problem of the sea level rise, which could be 1.5m, because I have heard that over the radio?

Yurie (J-PACE) – as mentioned, the sea level rise is rising up 2.0cm in 10 years time, so I don't think that's going to happen. We presumed 1.2m as a maximum wave based on the past experience in Tuvalu. New beach will ensure absolute protection against 1.2m of wave.

Tuafafa (Resident) – for what I know that their project is concerning about the lagoon side, and what about the ocean side?

Yurie (J-PACE) – we would like to help but because of the limited budget, there is not enough money to make the whole Funafuti atoll protected, so at first we concentrate to the Fongafale lagoon side.

Chief Community (Resident) – I think that's the most important thing you should do, as you were saying that you are going to concentrate first to the Fongafale then continue to other parts of Funafuti. I agree to that.

Tuafafa (Resident) – Like Option 3, that means the jetty at Vaiaku side, should remove away?

Yurie (J-PACE) – yes it will be preferable to be removed, and also the Amatuku wharf here in Fongafale. But all depends on the sand movement. We are closely working with the Forum Sand Project, which is trying to produce the sand.

Foumalie (Resident) – how far is from the main land to the edge of beach nourishment?

Yurie (J-PACE) – we are still under the investigation, but our estimates are ratio 1:4, which means 20m to 30m.

Siaosi (Resident) – how long is this project going to complete?

Yurie (J-PACE) – from Japanese experience, it will take approximately 5 years time including trial and errors process, by that times this project is fully completely.

Apinelu (Kaupule) – there is thinking from us the Kaupule, to establish a boat harbor in our lagoon, for our fishing boats, but we were told by the J-PACE that there is a possibility to cause erosions as same as Jetty.

Talakatoa (Resident) – you are saying that we cannot establish the boat harbor, and why is that, is it because of sand erosion or because of money problem?

Apinelu (Kaupule) – can be money problem, but in our point of view, it's because of sand erosion. It will block incoming sand.

Talakatoa (Resident) – Vaitupu the other island of Tuvalu is having a Boat Harbor, what do you think about that, are they having the same problem we Funafuti people have?

Yurie (J-PACE) – we don't know that Vaitupu has that, because we haven't been to there, but there is a possibility to have the sand erosion in future.

Chief community (Resident) – who are going to be the committee for monitoring and maintenance?

Apinelu (Kaupule) – the representatives are not from only the Government, but from the Governments, Kaupule, Landowners and community.

Siaosi (Resident) – If the project is finish, is J-PACE coming back to maintenance?

Yurie (J-PACE) – The term of J-PACE is one year and half only. We are not sure to come back for that. The monitoring and maintenance should be done by Tuvalu people. Without Tuvalu's initiative, we won't be able to assist for.

Chief Community (Resident) – J-PACE should come back, because we want to know whether we are conducting proper maintenance or not. And, we want to take good care of this project being in a good way.

ANSWRES FOR THE QUESTIONS

1. How are you using the beach at the priority area?
 - Fishing, collecting shells, bathing, toilet
2. Any possibility to face difficulties for your life by the implementation of the Project?
 - We are not sure for now, after the Project implemented, maybe we will find out.
3. Have you ever taken any action for coastal protection at the priority area so far?
 - Yes there is a seawall before in Funafuti, but just for the Fongafale area, and two types of seawall we built like gauge-wired one, and block-made one.
4. Do you think the community can work for coastal management?
 - We can help only if we do have sponsor or paid, then maybe we can help.
5. Is it possible for the Community group to take part in the monitoring and maintenance activities when the project implemented?

- Yes it is possible, and we are happy of that.
 - For that, Capacity building and awareness programme and training for the community to be conducted.
6. Are you feeling any affairs or concerns for the Project from Community's point of view?
- I have listened to the useful of the Option 3, but I believe that after all, there is a bad side of that.
 - We don't have any now, but some will be come up later on during and after the implementation.
- (- J-PACE answered that series of consultation and communication with community will be taken place during the implementation.)
7. What do you think any specific activities to be implemented to the Community before or during the Project?
- It is important to the community to get involve, we the community are going to responsible for taking good care of this implementation when the J-PACE go back.
 - Awareness programme. Some people disposed their rubbish on the beach. These activities should be prohibited under the Fale Kaupule Act.
8. Any request from the Community?
- Please, don't just leave us for the monitoring and maintenance, it should be monitored by the J-PACE itself.
- (- Kaupule answered that we are not sure J-PACE to come back to do that, they wait for an order from our leader like our Government, and what you the community should do, write a letter to our Government through your Government, then maybe J-PACE can come, because it s a must they should come back and not just leave to you all of this.)
- Apinelu (Kaupule) - close the meeting for tonight and thank you for coming.

**Minutes of the meeting J-PACE in the Funafuti Hall (Kaupule) for Women's group
(Funafuti, Vaiaku)**

11/06/09 11:00 – 13:30

Yurie (J-PACE) - Introduction from herself, the main purpose of the meeting, and is the main point of this project, and why did they pick women as the first group to discuss with them.

Peitala (Kaupule) - Translating of the English version to the Tuvaluan language so that Funafuti people can understand.

QUESTIONS AND ANSWERS

Nia (Women) – what kind of a Seawall that Yurie has explained, and what is she thinks about the Seawall, is it ok to have a Seawall in a place like Tuvalu, or Funafuti? Or what kind of seawall should the people of Funafuti prefer?

Yurie (J-PACE) – Seawall was generally made of concrete. I will show you actual picture.

Lupe (TNCW) – we are not very clear about the water breaker? How big of that water breaker, we just want to know.

Yurie (J-PACE) – the distance from the land to the breakwater is from 20m to 100m and the thick itself is like 4m.

All women – we preferred the Option 3 – Beach Nourishment is best for our land, for our community.

Lupe (TNCW) – I have agree with the option 3, because option 2 is not suitable for us, that is because that wall will block the fishing place of fishermen, and also our children will get injured from jumping on that wall, because I believe that no matter we inform our children about that wall, but they will not listening.

Nimei (Women) – For that Option 3, Is it possible that the sea or the current can remove gravel from where they are going to be?

Yurie (J-PACE) – no that's not possible, we have proof of that, now in Japan we are using gravels to protect our coastal areas. If we use sand, we must take into consideration its sustainability.

Lupe (TCNW) – that project is it for the lagoon only, and what about the sea side?

Yurie (J-PACE) – The sea side is excluded from this project, this project is only concentrates on the lagoon. It is impossible to cover all area of Fongafale Islet, therefore we set the priority. It also depends on the budget.

Mila (Women) – there are some projects at this time is about the environment, and also inform us people to build or plant more big trees near the coastal area, so is this helping the coast to be prevent?

Yurie (J-PACE) – yes, those who runs that kind of project, we are cooperated in keeping and protecting the environment and mainly the coastal areas. We should take various approaches for

coastal protection. And, we have to look after the sea as your baby.

Nimei (Women) – The gravels that is to need, where you going to get it from? Because as we seen in nowadays, that Funafuti/ Tuvalu don't have the big amount of gravel to cover up the area that's needed for the beach nourishment. It seems that outer islands have good amount of gravels. Have you already investigated?

Yurie (J-PACE) – we still investigate, but if we don't find more gravel in Funafuti, then we will try to order or ask for other to help us send over gravels.

Peitala (Kaupule) – Remember and put in mind that this new land or beach that we are going to build up is not for lease, just to inform the Funafuti people, that this land is for free use, no means of taking away for other purpose, but we can share the benefits and care for it.

Amutala (Women) – I agree.

Women - Is this the first time to implement beach nourishment like this project or you have run this kind of project some of the countries or islands? If yes any proof of how good this proposal?

Yurie (J-PACE) – Beach nourishment is getting common method all over the world like USA, EAURO, JAPAN, and AUS.

ANSWERS FOR THE QUESTIONNAIRE

1. How are you using the beach at the priority area?
 - Fishing
 - Collecting shells
 - Bathing
 - Toilet
 - Funafuti people will use these place for holding a special occasion like group of men going out fishing is normally call as a FAIVA, welcoming of higher people from the outer islands, and we use our traditional way of welcoming.
 - For these reasons, we prefer Option 3(Beach nourishment)
2. Any possibility to face any obstacles for your life by the implementation of the Project?
 - No, we don't have any. Just worried about fisherman. They may need to go far way.
3. Have you ever taken any action for coastal protection at the priority area so far?
 - Never done. Just planting mangroves at Funafala.
4. Do you think the women can work for coastal management? Is it possible for the Women's group to take part in the monitoring and maintenance activities when the project implemented?

- Yes, we can help but in terms of making the food for the workers, that's the only activities we women can make, but in terms of hard work, for sure Men is responsible for that, and also women can inform their children for the useful of this project and that gravel is not allow to be removed.

5. Are you feeling any affairs or concerns for the Project from Women's point of view? What do you think any specific activities to be implemented to the Women before or during the Project? Any request?

- there should a law or rule to be made, for anyone who is going to remove the gravels so that they can use it for building houses, other things they might the gravels for.
- Some people can allow others to remove only if they need the money.
- Other way of making such rule to be stronger, we should inform the Police force to look after the gravels, offenders should put in jail.

CLOSE THE MEETING

MINUTES OF THE MEETING WITH THE FISHERMAN OF TUVALU WHO ARE LIVING ON FUNAFUTI

16/06/10 8.00PM – 9.45PM

J-PACE (Yurie) – a little detail about their group, introducing of themselves.

Apinelu (Kaupule) – continue on explaining the presentation, and explaining the in details each sections

QUESTIONS AND ANSWERS

Yurie (J-PACE) – what kind of prevention you prefer?

Semi (Fisherman) – according to the Option1 (Seawall) and Option 2 (Breakwater), we will face a really big problem, because of our boats, there is no way of getting our boats on shore and off shore.

Tauese (Fisherman) – I think Option 2 will be great, that will produce more sand compared to Option 1 according to your explanation. We have experienced the erosion by the construction of seawall.

Taula (Fisherman) – Option3 (Beach nourishment) is better, because it's creating new lands and not only that easy for us to get our boats from and to shore.

Apinelu (Kaupule) – its true about Option 2 but it has a big destroy to our own land.

Tauese (Fisherman) – so that's mean that wall cannot be as high so that the big waves cannot come above?

Apinelu (Kaupule) – the wall is approximately 3m high, but if we make it more high, then we are creating another problem, which is hard for us to sea the whole lagoon, the view from the land to the lagoon, has been block by these walls.

Tutz (Kaupule) – the other thing is, the wall should be higher the land since the height of land in Tuvalu is very low.

Tauese (Fisherman) – why not make it happen, because that's a good thing, we can overcome the problem of sea level rising?

Tutz (Kaupule) – they are happy to do that, but according to the funds are they are going to use for this project its just cannot afford that, it costs a lot of money, and not only money, the bricks and the cement it will cost more then we thought, so think about it?

Tauese (Fisherman) – so if that's the case, then we will prefer Option 3

Bruce (Fisherman) – for option 2, our boats will be safe from the strong winds if we park our boats between the breakwater and the land.

Tuts (Kaupule) – as I have explained, because of money problem.

Yurie (J-PACE) – we can't recommend Option 2 since nearby beach must be affected.

Apinelu (Kaupule) - continued on the presentation, do you know who are going to own this new land?

Tauese (Fisherman) – I suggest that it's better for you to give us the Land owner to own that new land, that's because this project was a request direct from the Funafuti community to the government of Japan?

Apinelu (Kaupule) – I don't think that's true, or that's will not agreed by this teams and the Japanese government.

Tutz (Kaupule) – I think this new land will own by the government

Tauese (Fishermen) – why? Why in the first place, the Government of Tuvalu didn't make a decision about this, and they gave this to us the community?

Apinelu (Kaupule) – this is because, we have been through the government at first, I know that this request was send direct from the community to Japan, and they send it back to me, telling that they cannot accept it, unless we go through our government to theirs, so that's why we the KAUPULE use that process, so for your information, please the government will own this land.

Tutz (Kaupule) – what if they use the handcars and trucks, to get their fish from the sea?

Yurie (J-PACE) – yeah that will be acceptable

Semi (Fisherman) - how big is this construction?

Yurie – 1:4 ratios. Its width is 10 m to 30m.

Semi (Fisherman) - why Fongafale is the first place to held this construction?

Apinelu (Kaupule) – because of the hospital, school, the government building, and also more people are living here then other places, we do want make all the coastal area , but we are more concentrated on where most people lived.

ANSWERS FOR THE QUESTIONS

1. Will you face any difficulties caused by the implementation of the Project?

If yes, tell us details? Any ideas to solve these difficulties?

Fisherman - will be harder for fisherman to go out fishing during the construction work.

Yurie (J-PACE) – we will make the work in phases, like we work on this part, then the other one, and so on. We will consider.

Fishermen – agreed

2. Are you feeling any worries or concerns for the Project from the Fisherman's point of view?

Fisherman - Nothing at all, we just want to get the work done as fast as you can.

3. What do you think any specific activities to be implemented to the Fisherman before/during/after the Project?

Semi (Fisherman) - because it will hard for fisherman to get their boats from the sea to shore after the construction, what if you provide a trailer, you know, for our boats, like the Kaupule trailer using for pull up their boat after using.

Yurie (J-PACE) – we are taking this matter into consideration.

Semi (Fisherman) – can you make some anchor for our boats?

Bruce (Fisherman) – or make a special place for our boats to be safe from the wind or

hurricanes?

Yurie (J-PACE) – we will consider all your comments and requests. By the way, how often do they have to get their boats from and to the sea?

Fisherman - some fisherman, they go fishing all days, so they leave their boat for like 1 to 2 months, and for other fishermen who are just fishing for 2 days a week, they have to get rid off their boat as soon they finish from fishing.

Ok that's all for tonight – Thanks for coming.

Close the meeting

MINUTES OF THE SECOND MEETING WITH THE FISHERMAN

ON SUNDAY NIGHT 20/06/09

PRESENTATION

APINELU (=Api, Kaupule)– introducing the JPACE team and continuing with the presentation.

ANSWERS FOR QUESTIONS

Api (Kaupule)– which prevention work you prefer, according to these three options?

Timo (Fisherman) – seawall has disadvantages and also the sea breakers?

Api (Kaupule) – yeah you got that right.

Pasefika (Fisherman) – for the option 3, is it true that there is no change cause by the high tides or strong winds when this is happen? Or any problem with that option 3?

Api (Kaupule) – these gravels can be moved by the waves but not like taking away from where they belong.... I'm saying that it's just a little movement, and in this case we people are responsible for the returning of these gravels and not taking away for our own.

Pasifika (Fisherman) – how far is that beach nourishment?

Api (Kaupule) – about 10m to 20m

Josh (Fisherman) – what recommendation do they want?

Kilisi (Kaupule) – option 3 – beach nourishment.

Peniata (Fisherman) – that's why I asked you before, how far is that construction, because in this case, it's important for me the people who are not fisherman.

Josh (Fisherman) – in my point of view, for that gravels, its good for them to help us in providing us something that can lift our boats because as we know that if we push or slide our boat from the sea onto the land, our boats will be damaged caused by these gravels.

Api (Kaupule) – ok we'll see about that. What they want is your opinion for their report at the end of this year.

Pasifika (Fisherman) – there a plenty of things we want, please find a better way so that we fisherman will easy to get and bring their boats to the sea.

J-PACE – How many people are going to bring the boat to the sea and to shore?

Pasifika (Fisherman) – like 7 people, this in everyday, but still not enough men for the specific job.

J-PACE – in the past / before how many times do people bring their boat from the sea when there is a damaged caused by natural disaster (strong wind warning, hurricanes)?

Pasefika (Fisherman) – 2 to 3 times a year, but its better that we have a sandy beach.

Api (Kaupule) - and what about those with rocky beach?

Pasefika (Fisherman) – I don't know much about that, but the thing is, don't look back at the present, look for now, and you have to think careful of what the Team is going to construct.

J-PACE – we don't know really what we are going to do, but with your opinions maybe we can include in our report, and we try to look for all what you ask for, to be included in the

construction.

Peniata (Fisherman) – the trailer I know that is useful for sandy beach, but it's not useful for rocky beach, so look for another thing.

Pasefika (Fisherman)– and what about ramps? Is it ok?

J-PACE – for that no, but if we could include ramps in our project then maybe we can build that for you but only 2 or 3.

Suamalie (Fisherman) – can you make some anchorage for our boats during the work?

Api (Kaupule) – through the project there is no such thing like that, but you can make your own.

Pasifika (Fisherman) – the gravels, where from? Our place or you get it from Japan or somewhere else?

J-PACE – we'll get those gravels from here in Funafuti.

Pasifika (Fisherman) – so any problem with that, like taking away the gravels from the ocean side or somewhere?

J-PACE – we will see about that, and we still investigating.

FAKAFETAI LASI MOTE OKO MAI. TOFA

2.2 2nd Public Hearing

MINUTES FOR THE MEETING WITH THE FALEKAUPULE – MATAI

(Thu, 7th September 2010)

Falefaea. Tapumanaia (Fale Kaupule) – opening prayer

Chief (Mesako, Fale Kaupule) – opening regards

Introduction from the JPACE team for themselves.

Semese (Kaupule Funafuti) – explaining the first session of the presentation in details.

CAUSEWAY

Kamuta (Fale Kaupule) – according to what they have explained about the causeway and its disadvantages, what if we break it down and build a small bridge instead?

J-PACE – It might be one of the options, but it won't be implemented by this Project. Another project, which is the Forum Sand Project, is still having investigation for various ways to overcome that problem. Under this Project, we are just planning to build up the beach nourishment.

TARGET AREA

Suka (Fale Kaupule) – are they thinking about of having the construction along the mainland, from one end to another?

Kilisi (Kaupule Funafuti) – well according to the prioritized order as you can see from this slide, there is numbering in such area, and they have put priority on these areas considering the density and other factors, as we all know that there are more people are living in this area 1, and that's why the construction will be concentrated first to this area, area 1.

SAND MOVEMENT

Talakatoa (Fale Kaupule) – the sand, where does it come from, the lagoon side or the ocean side?

Semese (Kaupule Funafuti)- these sands are moving from the ocean side to the lagoon because of the sea current.

Talakatoa (Fale Kaupule)– as I know there are two ways of gaining the sands, One is as I know that sands are coming from the other islets, and the another one is that you have mentioned that is from the ocean side.

COASTAL EROSION

Siaosi (Fale Kaupule) – I have a house on the north side of the island, and the beach there is almost halfway was gone, what can you say about that?

Semese (Kaupule Funafuti) – they are still investigate and look for possible ways to overcome all those kind of problems, but as we told you before that this team and the project are going to concentrate the density area – where are with more people lived on.

BEACH NOURISHMENT

Talakatoa (Fale Kaupule) – is this their first time to held such project in the pacific / is Tuvalu the first island in the pacific to held such project or they already done this in some other pacific islands?

Kilisi (Kaupule Funafuti) – No experience in the pacific countries, but they have done this in some small flat islands like Tuvalu in Japan.

Chief (Fale Kaupule) – how far is this beach nourishment?

Kilisi (Kaupule Funafuti) – we will show you and you can see in this coming slides. It can be almost 20 m to 30m.

Chief (Fale Kaupule) – how long / how many years does that beach nourishment will grow compare to one in Japan which was constructed in Jan 2010 and just for 3 months and it was formed as a new land, so how about in Tuvalu?

Semese (Kaupule Funafuti) – well 1 to 3 years including construction and monitoring works.

Kamuta (Fale Kaupule)– only the option3 is suitable for Tuvalu?

Semese (Kaupule Funafuti) – According to the study, that's right.

Kausea (Fale Kaupule) – Will the gravels be disappeared when there are more sands accumulated? Like the one in Japan, only for 3 months then the new land formed.

J-PACE – There is possibility that the sand will cover the gravel beach when the sand is supplied more.

Siaosi (Fale Kaupule) – how long does it take to start implementation this construction?

Kilisi (Kaupule Funafuti) – this is the last hearing with you, and then their report about this will be submitted in December 2010, then the government of Tuvalu will examine and request Japanese government. Hopefully to start as soon as possible.

Talakatoa (Fale Kaupule) – after the construction, would it possible to have sand eroded?

Semese (Kaupule Funafuti) – they are still planning how they can overcome such problems, if there is.

OTHER COASTAL PROTECTION WORKS

Chief (Fale Kaupule) – what is a sea breaker?

Kilisi (Kaupule Funafuti) – it is a wall that helps to reduce the strong big waves towards the mainland.

EDGE TREATMENTS

Andrew (Kaupule) – ok, so edge treatment they are going to use rather than ramps?

Kilisi (Kaupule Funafuti) – yes, J-PACE recommend that since ramps will disturb the sand movement.

Kausea (Fale Kaupule) – do this treatment need cement?

Kilisi (Kaupule Funafuti) – If they do, then it's more likely a ramp, only gravels and sands.

Siaosi (Fale Kaupule) – this idea, edge treatment was also done by the Americans in the last fifty years, and now is gone.

Kilisi (Kaupule Funafuti) – JPACE team is still looking or investigating the best structure.

LAND OWNERSHIP

Semese (Kaupule Funafuti) – according to the explanation of this new land it is likely to be said that it will owned by the government.

Kamuta (Fale Kaupule) – no that is not right, because this project is not for the government, but for the Funafuti people, according to the law of new lands, any new land should own by the landowners.

Semese (Kaupule Funafuti) – ok , I think it's better for the office of land and survey, and also the lawyer of Tuvalu to be here, so that they can answer your question.

Siaosi (Fale Kaupule) – the gravels that you are going to get for the construction are owned by the land owners, so that means this new land should own by the land owners.

Kamuta (Fale Kaupule) - I am unhappy of coming to help to this work if I don't own the land but the Government.

Chief (Fale Kaupule) – maybe it is better if we held another meeting like this with the others who are indeed going to answer this type of question e.g.; lawyer of Tuvalu and the Lands and survey officer, so that we don't get confuse, to have a clear understanding about this new land.

Falefaea (Fale Kaupule) - Is this project was from the government of Japan through the Government of Tuvalu to our community, we as land owners should all agree that the land is not for individual, because we have two types of Government, one is Government for Tuvalu and Government for Funafuti Island, just to be clear on that.

Andrew (Kaupule) – I agree with what Falefaea has said.

Kausea (Fale Kaupule) – to be clear that the crown land is the Government, and has already given this ownership to the Kaupule , but still it is under the Government of Tuvalu.

Iosia (Fale Kaupule) – I agreed on these thoughts, but please to postpone the meeting to some other time.

Siaosi (Fale Kaupule) – who is going to maintain the implementation?

J-PACE – it depends on you, whether you accept the project or not. On the land issues, I suggest that we do respect your community, so the project beneficial is for the community and not the landowners, and I am sure that if the government of Japan heard about this, they will not accept your proposal.

Faatasi (DoLS) – sorry I came late, but I want to explain something to you all. Whether you agree or not, it is true that we have done some protection on our seashores, like not all the

community, but only some by themselves, and so for such new land they've created, it is automatically owned by them. This new land is more like a preserved area.

Falefaea (Fale Kaupule) – its true that it is hard, but we all Matai should agree to call this land as the community land, not landowners – individual.

We have already discussed this issue on the new land in 2006 together with one of the Minister of Japan, and we replied in written to the Minister, that the Matai has agreed to not claimed this new land as to be leased, but for free for the public in terms of taking good care by all the people, we also had a local dance there at the Hotel and presented some gifts for this Minister, and what he told us that, he will send back his men to the work, and now here they are, to be clear that this new land is for the whole community or the Falekaupule, not individual, or landowners.

Talakatoa (Fale Kaupule) – I agreed what the chief has mentioned.

Miliama (Fale Kaupule) – remember that if the land owners don't agree because they still want to own this new land, the Government as the said that for sure they will turned down this project, and it is a useless.

Kausea (Fale Kaupule) - according to the law of Tuvalu, for any new land, you have to apply, and so the Minister will approve that, and that can be called as you own land, because we know that there is a new land formed from this implementation, and for the land that are being eroded, what can they do about that?

Kilisi (Kaupule Funafuti) – as we explained you before that they are working on area which more people are lived in.

Kausea (Fale Kaupule) – remember that this new land should go first to the Minister for approval and to amendment into the law of Tuvalu.

Andrew (Kaupule) – please to the Matai, to sign on this letter to the Minister.

ACQUIREMENT OF GRAVELS

Talakatoa (Fale Kaupule) – when we bring the gravels from the islets, does these islets have the same effects we have - (the loss of sand)?

J-PACE - there is no problem to those islets, because we are going to get the gravels only from the end of the three islets and from under the sea level, not the gravels along the islets.

Chief (Fale Kaupule) – yeah we have discussed this before about where are we going to get the gravels from.

Andrew (Kaupule) – does the gravels and sands enough for the whole project?

Kilisi (Kaupule Funafuti) – no it's not enough, but we still calculate to reduce the necessary amount of gravels and sands. If we borrowed from overseas, it will cause a big amount of money.

Talakatoa (Fale Kaupule) – why don't they borrow gravels from overseas or gravels from the ponds near the pig pens at the west side of the island?

Kilisi (Kaupule Funafuti) – well, the gravels from the ponds is ok, but still its not enough, and from overseas, that will not be acceptable, because we don't know that these gravels can be more like a carrier of fungus or bacteria that they can kill our resources in the lagoon. Eg.fish shells and others.

Andrew (Kaupule) – the amount of gravels needed only for area1?

Kilisi (Kaupule Funafuti) – yes that's right. Plus for backfilling of borrow pits.

Andrew (Kaupule) – what about other areas?

Kilisi (Fale Kaupule Funafuti) – not yet confirmed.

FISHERMEN CONSIDERATION

Andrew (Kaupule) – where are they going to establish the ramps for fishermen?

Kilisi (Kaupule Funafuti) – they don't know yet, but it depends on how many fishermen lived in one place and how they think of this.

Sam (Fale Kaupule) – do they have some plans to develop boat harbor using gravels like on Nukualofa in Tonga?

J-PACE – No, it is not related to the coastal protection work, which will be a different project with J-PACE.

Peniata (Fale Kaupule) – can they make a crane for fisherman boats?

Semese (Kaupule Funafuti)– we are trying to protect the seashores, but not destroy it.

OTHERS

Sam (Fale Kaupule) – this project will be the first one to start in 2011, or the following year the project will run. Until then, are more projects implemented?

Faatasi (DoLS) – well from now, there are 3 projects and they are all linked together, the NAPA, FORAM –SAND and the JPACE, and I think they are the one who first run in the beginning the 2011.

Faatasi (DoLS) – I know that Japan can help us in many things, because as I can see many of their workers and students are studying the impact of our island, and so for what ever we ask for they will help, because they already know from their experience.

CONCLUSIONS

J-PACE – I would like to make sure that Matai are you agreed with the implementation or not?

Chief (Fale Kaupule) – we all agree that, and we do hope that you are going to work and plan really hard on the project.

Semese (Kaupule Funafuti) – thank you everyone for coming – good day

Close the meeting

JPACE MEETING WITH THE MASAUVA PEOPLE

(Thu, 8th September 2010)

INTRODUCTION BY YURIE ABOUT THE PROJECT.

SEMESE (Kaupule Funafuti) – EXPLAINING EACH SLIDES IN DETAIL.

PROCUREMENT OF GRAVEL

TOMASI (Masauva) – TO BACKFILL THE BORROW PIT, WHERE DO THEY GET IT FROM?

YURIE (J-PACE) – FROM THE OCEAN SIDE OF THE AIRFIELD.

GUNTER (Masauva/PWD) – IS THERE ANY EFFECT WHEN THE GRAVELS FROM THE AIRFIELD REPLACE IN THE LAGOON SIDE FOR REFILLING?

SEMESE (Funafuti Kaupule) – NO THERE IS NOTHING LIKE THAT, THEY HAVE INVESTIGATE THAT WELL AND STUDY IT WELL, AND CONFIRMED THAT IT WILL BE OK.

GUNTER (Masauva/PWD) – WHAT IF THERE IS SUCH A THING?

YURIE (J-PACE) – YES WE WILL OVERCOME THAT PROBLEM

PANAPA (Masauva)– THE GRAVELS IS ONLY FOR THE BEACH OR THE MAIN LAND?

SEMESE (Kaupule Funafuti)– BEACH ONLY.

LAND OWNERSHIP

TUAFAPA (Masauva) – THAT NEW LAND SHOULD MAKE A NEW LAW FOR IT, SO THAT NO CAN RECLAIM IT, IN THE END, BUT TO BE SAID AS IT RULE BY THE KAUPULE.

TIMO (Masauva) – I AGREED WITH TUAFAPA, THE NEW LAND SHOULD UNDER THE POWER OF THE KAUPULE OR THE FALEKAUPULE.

LEUPENA & PANAPA (Masauva) – WE AGREED TO GIVE THE POWER TO THE FALEKAUPULE OR KAUPULE TO OWN THIS NEW LAND.

TUAFAPA (Masauva)– IT DOESN'T MATTER WHETHER THE KAUPULE OR FALEKAUPULE OWN IT, BECAUSE THEY ARE THE SAME, FALEKAUPULE IS THE HIGHEST LEVEL, AND THE KAUPULE IS THE ADMINISTRATIVE ARM OF THE FALEKAUPULE.

TOMASI (Masauva)– WE DON'T WHY THE GOVERNMENT IS LIKE THIS, I AM SAYING, IN OUTER ISLANDS, FOR WHAT EVER NEW BOATS COMES IN THE LAGOON, THE NEW COMER SHOULD PAY A FEE TO THAT FALEKAUPULE, BUT FOR FUNAFUTI ISLAND, NEW COMER PAR THEIR FEES TO THE GAVERNMENT. I DON'T WHY... THAT'S THE THING, I DON'T LIKE ABOUT THE GOVERNMENT

TUAFAPA (Masauva)– MAYBE BECAUSE OF THE BYLAW, LIKE TO BE MORE PROTECTIVE.

YURIE (J-PACE) – ITS BETTER IF THERE IS A NEW BYLAW FOR THIS PROJECT TO MAKE SURE THAT IN THE END NO ARGUING IN BETWEEN YOU PEOPLE.

TUAFABA (Masaua)– YES I AGREE WITH YURIE, BECAUSE IN THE END, ONLY THE FUNAFUTI SHOULD BENEFIT FROM THIS NEW LAND.

TOMASI (Masaua)– IT’S BETTER TO LEAVE THE FUNAFUTI KAUPULE, AND CANCEL THE RESIDENCE, BECAUSE RESIDENCE IS ALL INCLUDED IN THE FUNAFUTI KAUPULE.

MONITORING AND MAINTENANCE

TUAFABA (Masaua)– FUNAFUTI KAUPULE TO BE THE FIRST PEOPLE IN THE LIST OF THE PCC COMMITTEE.

FISHERMEN ISSUES

FEPUALI (Masaua) – WHERE CAN WE USE FOR DRAGGING OUR BOATS AFTER THE CONSTRUCTION.

SEMESE (Kaupule Funafuti)– THERE IS AN INVESTIGATION AFTER THE PROJECT, AND ALSO THERE ARE SOME OPTIONS FOR THE FISHERMEN.

FEPUALI (Masaua)– I PREFER TO BUILD RAMPS.

SEMESE (Kaupule Funafuti)– THERE WILL BE A MEETING WITH FISHERMEN, MAYBE YOU COULD COME TO THAT MEETING TO SHOW YOUR THOUGHTS, AND EVERYTHING FOR FISHERMEN WILL EXPLAIN THAT TIME.

LEUPENA (Masaua)– IT’S BETTER IF THEY LOCATE JUST 3 – 4 RAMPS.

BEACH NOURISHMENT

GUNTER (Masaua/PWD)– WHEN THIS PROJECT IS ON, IS THERE ANY DISTURBANCE TO THE SEA CURRENT BECAUSE OF THIS CHANGE ON THE BEACH, DO THEY HAVE ANY STUDY ON THIS?

SEMESE (Kaupule Funafuti)– YEAH THEY HAVE STUDIED THAT CAREFULLY BEFORE THEY HAVE THIS PUBLIC HEARING.

GUNTER –(Masaua/PWD) WHY I ASKED BECAUSE, I LIVED ON THE NORTH SIDE OF THE ISLAND, AND I AM A LITTLE CURIOUS IF THERE IS SOMETHING HAPPEN BECAUSE OF THIS CHANGES.

YURIE (J-PACE) – YEAH, NO PROBLEM AT ALL BUT WE ALREADY CONSIDERED ALL – WE ALL AGREE FOR THIS NEW LAND TO BE IMPLEMENTED.

CLOSED THE MEETING

Minutes of the meeting / discussion with the youths and the JPACE

10.00 – 12.00pm (16 June 2010)

INTRODUCTION

Yurie (J-PACE) – introducing the team and herself.

Peitala (Kaupule) – presenting the presentation it's useful for the coming generation of Funafuti, and the long-term name for JPACE. She also telling the youths about the plan, and they have already interviewed some Funafuti elder people on what their thoughts about this.

Peitala (Kaupule) – is someone know why the JPACE choose Fongafale to be the first area to start their project?

Youths- it's because plenty people lives there...

Peitala (Kaupule) – not only that also the school, Hospital, and the Government building are all in the Fongafale area. So we really need your help, and mostly your opinions, so that will know what your thoughts about this, and also helping us out, for us to make a report more easily and the Government will understand it clearly, because Youth is one of the most important group.

QUESTIONS AND ANSWERS

3 WAYS OF PREVENTING OUR SAND BEACH / SHORES

Option1. Seawall / Option2. Water breakers / Option 3. Beach Nourishment

Peitala (Kaupule) – so which one of this you prefer?

Liva (Youth) – Option 3, it seems not much money we are going to spend

Yurie (J-PACE) – hands up those who agree in each option?

Option 1 – 1 only Option 2 – 9 people Option 3 – 7 people

Yurie (J-PACE) – for Option 1, the problem is the sea is taking out the sand – based on the picture shown in the presentation.

For Option 2, it will affect nearby beach in terms of erosion.

For option 3, there are many advantages compared to other options.

Peitala (Kaupule) – People who lives near shore, should help on returning the sands / gravels to where they belong if the wind or high tide remove them to the main land.

Peitala (Kaupule) – we should tell them that to not do that, we should follow the instruction given by the Team or the Kaupule, and I think the Kaupule is going to look after this property after all, for the better of our generation.

Liva (Youth) – what if someone is using the sand for his / hers house to be build, and this person is using the sand of his / her land, is this person allow to take the sand away for this purpose, after the project?

Peitala (Kaupule) – no that's not allowed, it's allowed to take the sand on where that place is not included in the Fongafale area, otherwise, is not allowed.

Roy (Youth) – If there is a sea level rise, is it true that the coral is also growing up?

Yurie (J-PACE) – the coral is growing up at regular speed. If the rising speed of sea level rise is slower than the speed of coral growth, the speed of coral growth seems faster than normal.

Roy (J-PACE) - If the new beach is there, what happens to the coral underneath? Are they die or still alive?

Yurie – When the sand covered the coral, it is going to die but depends on the amount of sands. We will take into consideration the place where the coral still alive.

Lilia (Youth) – can you explain how do that beach nourishment is to be made?

Yurie (J-PACE) – we are trying to introduce the gravels artificially, when we build the new beach, the gravels will absorb the sand which is enough supplied, and make the beach sustained.

Roy (Youth) – Is there any other Options if this Option 3 – Beach Nourishment is not working?

Yurie (J-PACE) – there are some, however, these three Options we think are the most suitable for Tuvalu, especially Funafuti.

Tiaese (Youth) – sea la ate option e tau o fakaaoga?

Peitala (Kaupule) – we are waiting for your response, like you are about to tell us, what are your thinking. This project is for the whole Tuvalu Islands, but we are going to start from you the Funafuti people.

Tablemate (Youth) – I think I prefer Option 2, because I will have to swim down to the bottom of the walls and tie the rope of my boat.

Some youths – they prefer the Option 2

Yuri (J-PACE)– explaining the disadvantages of the Option 1 showing some actual photos of experiences from Japan in 1981 to 1998, and Option 2 also quoting from Japan in 1983 to 1998. She explained that Japan and other countries have already experienced a lot in terms of coastal protection work. Then, we reached the conclusion that these artificial coastal protection works should be very careful to introduce. We should learn from lessons from other countries including Japan. Youth can choose what you want, however, I would just highlight you that ***YOUTHS YOU'RE THE KEY PERSONS*** since you are looking after the future of Tuvalu.

Youths- How is sand to be produced?

Yuri (J-PACE) – Your Island, Fongafale Islet, is formulated by sand, which also protect you from coastal disaster. **FORAM SAND PROJECT** is aiming to produce the sands artificially. The Forum sand project and J-PACE are closely related each other.

Peitala (Kaupule) – sand from the ocean side, cannot come through to the lagoon side because of the causeway have blocked the sand path.

ANSWERS FOR THE QUESTIONS

1. How are you using the priority area?

- Fishing, collecting of seashells, bathing etc

2. Will you face any difficulties caused by the implementation of the Project? If yes, tell us details? Any ideas to solve these difficulties?

- The shells will die if the beach nourishment is going to happen.
- J-PACE answered that we are trying to protect the sand which already exist, and just install the gravels to where the sands have been already disappeared.

3. Have you ever taken any action for coastal protection at the priority area? If yes, what kind of action have you taken?

- Yes collecting the rubbish from the shores

4. Do you think the Youth can work for coastal management?

- Yes of course we can, for the better of our coming generation.

5. Is it possible for the Youth to take part in the monitoring and maintenance activity when the project implemented?

- Yes, so that we can advice others on how important this and for us youths.

6. Are you feeling any worries or concerns for the Project from the Youth's point of view?

- Keep J-PACE on coming to monitor and maintain the project and give us assistance.

7. What do you think any specific activities to be implemented to the Youth before/during/after the Project?

- be strict, so that to be sure no one is going to disobey it, or break it

CLOSE THE MEETING

JPACE MEETING WITH THE VAIAKU WOMEN

(Thu, 8th September 2010)

PEITALA (Kaupule Funafuti) – EXPLAINING THE PRESENTATION AND EACH SLIDE.

COASTAL EROSION

PISILA (Women) – WHY IS ERODED?

PEITALA (Kaupule Funafuti) – BECAUSE SOME JETTIES WHICH BLOCKED THE FLOATION OF SAND FROM THE OCEAN SIDE INTO THE LAGOON SIDE, AND THAT IS WHY

PISILA (Women) – I AGREE WITH WHAT YOU HAVE EXPLAIN ABOUT THE GRAVELS IS VERY USEFUL TO MAINTAIN THE SANDS OR SOMETHING, BECAUSE I HAVE BEEN IN ONE OF THE ISLAND OF TUVALU CALLED NANUMAGA, THERE ARE PLENTY OF GRAVELS IN THIS PLACE IN TIMES OF STORMS, BUT AFTER 2 DAYS, IT TOTALLY GONE, AND I DON'T KNOW WHERE THEY'VE GONE TO, CAN YOU TELL ME HOW IS THAT POSSIBLE?

YURIE (J-PACE) – THOSE GRAVELS ARE JUST MOVING ALONG THE BEACH OR COMING UP ONTO THE ISLAND.

LANDOWNERSHIP

PEITALA (Kaupule Funafuti) – SO WHAT ARE YOU THINKING, WHO IS GOING TO RULE THIS NEW LAND? ACCORDING TO WHAT THE FALEKAUPULE AND THE MASAU SAID THAT THE FALEKAUPULE SHOULD OWN THIS NEW LAND.

PISILA (Women) – I DON'T AGREE WITH THAT, IF THERE IS ANY IMPACT, THE GOVERNMENT SHOULD LOOK AFTER THAT.

PEITALA (Kaupule Funafuti)– ONE MATAI TOLD US THAT THE CROWN HAS BEEN GIVEN TO THE LOCAL GOVERNMENT.

PISILA (Women)– IF THAT SO, THEN IN THE FUTURE TIME, THE GOVERNMENT OF TUVALU WILL NOT CONSIDER THIS OF WHATEVER HAPPENS.

PEITALA (Kaupule Funafuti)– JUST TO BE CLEEAR WITH YOU ALL, THAT THE FUNAFUTI ISLAND OR CUMMUNITY HAVE ASKED THE JAPAN GOVERNMENT THROUGH OUR GOVERNMENT TO HELP THEM IN PROTECTING THE SEA SHORE, AND THAT'S WHY THEY ARE HERE.

LOONE (Women)– IS IT OK IF WE THE VAIAKU COMMUNITY USE THIS PART OF LAND, AND LET THE FUNAFUTI COMMUNITY OWN THEIR PEACE OF LAND?

PISILA (Women)– MAYBE IT'S BETTER TO MAKE A LAW FOR THIS NEW LAND.

NAE (Women)– I DO NOT AGREE WITH WHAT THE LAND OWNER IS THINKING, LIKE THEY WANT TO OWN THE LAND.

YURIE (J-PACE)– SO, IF THE GOVERNMENT GIVES YOU THIS PART OF THE NEW

LAND FOR MAINTENANCE, HOW WOULD YOU MAINTAIN, DO YOU THE VAIAKU PEOPLE HAVE A SOME GOVERNANCE STRUCUTE SUCH AS KAUPULE LIKE THE FUNAFUTI COMMUNITY?

ALL (Women)– NO , BECAUSE WE VAIAKU PEOPLE ARE MIXTURES OF DIFFERENT ISLANDERS, WE DON'T HAVE THAT, ONLY IN OUR OWN ISLANDS , THERE IS ONLY ONE KAUPULE IN EACH ISLANDS, AND SO WE ARE MORE LIKELY DEPEND ON THE FUNAFUTI KAUPULE BECAUSE WE LIVED ON FUNAFUTI ISLAND.

MELEKUITA (Women)– I SUGGEST THAT TO GIVE THE POWER TO THE GOVERNMENT OR TUVALU TO OWN OR RULE OVER THIS LAND. IS IT POSSIBLE THEY, THE FUNAFUTI KAUPULE, GIVE THE POWER TO US TO OWN THIS NEW LAND?

FAKAGALITITI (Women) – I AGREE ON WHAT THE FALEKAUPULE HAD DECIDED ON THAT.

MELEKUITA (Women) – BEFORE I HAVE THE UNDERSTANDING THAT THIS NEW LAND IS OWN BY THE GOVERNMENT, BECAUSE I THOUGHT THAT THIS PROJECT IS FROM THE GOVERNMENT, BUT THEN AS WHAT PEITALA HAVE EXPALINED, I UNDERSTAND WELL THAT THIS PROJECT BELONGS TO THE FUNAFUTI KAUPULE, SO WHAT I AM SUGGESTED TO GIVE THIS LAND TO BE OWN BY THE FALEKAUPULE OF FUNAFUTI.

ACQUIREMENT OF GRAVEL

PEITALA (Kaupule Funafuti)– ONCE AGAIN THE GRAVELS WE ARE GOING TO GET IS FROM EACH END OF THE 3 ISLETS AS I HAVE EXPALINED TO YOU BEFORE, AND NOT THE WHOLE GRAVELS ALONG THE ISLETS.

PESIKI (Women) – IS THERE ANY IMPACTS TO THE RESOURCES OF THE SEA ACCORDING TO THIS NEW GRAVELS THAT ARE GOING TO BE USED AS BORROW PIT?

YURIE (J-PACE) – WELL, THERE IS AMOUNT OF SAND IS NEEDED TO BE USED, BUT NOT ALL OF THE SAND WE ARE TO GET RID FROM WHERE THEY ARE. WE WILL GET THE GRAVEL FROM UNDERT THE SEA LEVEL WHICH NOT BELONGS TO ANY LANDOWNER.

ALL – IF THAT SO, THEN WE AGREE WITH THAT.

CLOSED THE MEETING

MEETING WITH THE WOMEN OF FUNAFUTI (ALAPI AND SENALA)

(Thu, 9th September 2010)

INTRODUCTION BY PEITALA, EXPLAINING BRIEFLY EVERY AND ECAH SLIDES.

ACQUIREMENT OF GRAVEL

TAMARA (Women) – WHERE DO WE NEED THE GRAVELS FROM?

PEITALA (Funafuti Kaupule) – WE WILL GET TO THAT, ON SOME SLIDES LATER, DON'T WORRY.

TEPULE (Women) – IS THERE ANY IMPACT ON THE ISLAND IF YOU REMOVE THE GRAVELS?

YURIE (J-PACE)– WE ALREADY INVESTIGATED THAT, ITS SHOULD BE NO IMPACT.

COASTAL EROSION

TAGOI (Women)– AS YOU'VE EXPLAINED THAT THE JETTY AT VAIAKU HAVE BLOCKED THE INCOMING OF SAND, AND WHAT ABOUT THE MAIN WHARF?

PEITALA (Funafuti Kaupule) – THEY ARE TOTALLY DIFFERENT, THE MAIN WHARF IS MADE UP OF POST AND OF COURSE IT'S CEMENT BUT WHEN THE SAND COMES THEY FLOW EASILY TO THE OTHER SIDE, WHEREAS THE JETTY, ITS WHOLE BODY IS COVERING WITH CEMENT AND THAT IS POSSIBLE THAT THE SAND IS STUCK AT ONE SIDE BECAUSE OF THIS BIG WALL CEMENT.

APISEKA (Women)– WHY DO YOU NOT BREAK THE VAIAKU WARF DOWN?

YURIE (J-PACE) – NOT NEED TO DO AT THE MOMENT. THE BREAKING DOWN OF THAT IS NOT INCLUDED IN OUR CONSTRUCTION, THE FORAM SAND PROJECT WILL WORK FOR THAT, BUT NOT SURE.

APISEKA (Women) – IM AFRAID THAT THE IMPACT ON THE SAND IS GETTING WORSE IN DAY BY DAY.

PEITALA (Funafuti Kaupule) – DON'T WORRY THE TEAM IS STILL EVALUATING ALL KIND OF THINGS BEFORE WE MAKE OUR REPORT.

TAGOI (Women)– WHAT ABOUT THE CAUSE WAY? ARE YOU PLANNING TO GET RID OF IT OR BREAK IT DOWN?

PEITALA (Funafuti Kaupule)– AS WE EXPLAINED BEFORE, THAT THE BREAKING DOWN OF THE JETTY AND THE CAUSEWAY IS NOT DONE BY THIS PROJECT. WE ARE TRYING TO WORK TOGETHER WITH THE FORUM SAND PROJECT.

HELANI (Women) – IN THE ESTIMATION, HOW LONG DOES IT GONNA TAKE ON DOING THE IMPLEMENTATION TO COMPLETE?

PEITALA (Funafuti Kaupule)– AT LEAST 1 YEAR TO COMPLETE.

LANDOWNERSHIP

HELANI (Women) AND WHO IS GOING TO OWN IT AFTER ALL?

SUALUA (Women) – I AGREE TO GIVE THE POWER TO THE KAUPULE TO OWN THIS NEW LAND.

AMUTALA (Women) – FROM OUR SIDE, WE THINK THE FALEKAUPULE HAVE THE MORE POWER ON EVERYTHING, SO THEY CAN ALSO RULE THIS LAND OR OWN IT.

APISEKA (Women) – THE FALEKAUPULE SOMETIMES BIAS SO I DISAGREE, AND THE KAUPULE IS BETTER.

MAULIMA (Women) – WE HAVE ALREADY PROTECT OUR SEASHORE, WHAT IF THIS CONSTRUCTION IN ON, AND ONLY A FEW MORE METER THAN IT GET 20M, IS THE KAUPULE OR THE FALEKAUPULE STILL HAVE THE POWER TO OWN MY OWN LAND, WHICH I HAVE TIRED OF DOING THE JOB ON MY OWN, WHERE IS THE BOUNDARY, IS THERE ANY?

ESITA (Women) – I JUST WANT TO ANSWER WHAT MAULIMA ASKED ABOUT, WELL IN THAT CASE THE GOVERNMENT WILL CONSIDER THAT, THERE IS A WAY TO REPAY YOU OF WHAT YOU DID AND ESPECIALLY THE WORK.

TEPULE (Women) – I AGREE TO GIVE TO THE FALEKAUPULE AND THE KAUPULE, BECAUSE I DON'T THINK THEY ARE DIFFERENT.

HELANI (Women) – I AGREE WITH THE TEAM , AND I WANT TO MAKE THIS PROJECT TO PROCEED AS SOON AS POSSIBLE, AND WHATEVER DIFFICULTIES AFTER ALL, THAT WILL SETTLE IN THIS HALL IT'S MORE RESPECTFUL WAY.

GENDER

YURIE (J-PACE) – HOW DO WOMEN INVOLVE IN THIS IMPLEMENTATION OR WHAT ACTIVITIES CAN WOMEN DO FROM NOW, DURING THE WORK AND AFTER?

NUSETA (Women) – EDUCATE OUR CHILDREN FOR THIS NEW LAND AND THE USEFUL OF IT, AND NOT TO MISUSE IT.

HELANI (Women) – I AGREE WITH THAT, EDUCATE OUR CHILDREN.

ALL – WHAT WE CAN DO IS PLANTING OF TREES, OR FEED THE WORKERS FOR CONSTRUCTION.

APISEKA (Women)– BECAUSE OF RULES AND REGULATIONS, WOMEN ALWAYS LISTEN TO WHAT THE MEN COMMAND, BUT WE CAN ALL DO THE WORK.

ASITA (Ministry of Women Development) –IT'S TRUE ABOUT RULES AND REGULATIONS, BUT WHAT ABOUT THE PROJECT IS NEEDED TO MAKE IT FAST.

APISEKA (Women) – WELL WE CAN BE LIKE MEN, FILL UP THE SACKS OF GRAVELS.

TAGOI (Women) – AT THIS AGE WE ARE TOO OLD TO CARRY THE SACKS OF GRAVELS BUT WE CAN FILL UP THE SACKS WITH GRAVELS

MELINA (Women)– WE CAN SING SOME SONGS TO MAKE THEM STRONG.

TAGOI (Women) - OR COOKED THE FOOD, THAT'S THE MOST IMPORTANT FOR THE

MEN, NO FOOD NO WORK.

SELEPA (Women) – I SUGGEST THAT WOMEN SHOULD INVOLVE IN THEIR PLAN.

ASITA (Ministry of Women Development) – THIS MEETINEG IS A PART OF PLANNING
PROCESS. IT MEANS THAT YOU ARE ALREADY IN THIS PLAN.

THANK YOU VERY MUCH FOR COMING

CLOSE THE MEETING

MEETING WITH THE FUNAFUTI YOUTH

(Thu, 9th September 2010)

PEITALA (Kaupule Funafuti)– DO THE INTRODUCTION AND PRESENTATION.

COASTAL EROSION

TEVASA (Youth Pastor)– WHO IS GOING TO GET RID OFF THAT JETTY?

PEITALA (Kaupule Funafuti) – J-PACE WILL NOT GET RID OFF THE JETTY AT THIS MOMENT, AND NOT NEEDED TO DO NOW.

TEVASA (Youth Pastor) – I PREFER OPTION 3, WHICH IS BEACH NOURISHMENT.

ALOAMA (Youth) – THE PREVENTION IS ONLY FOR THE LAGOON SIDE, WHAT ABOUT THE OCEAN SIDE?

PEITALA (Kaupule Funafuti) – ONLY THE LAGOON SIDE, THEY HAVE EVALUATED THAT THE LAGOON SIDE SHOULD BE PROTECTED IN TERMS OF HIGH DENSITY, DISASTER EXPERIENCE AND IMPORTANT PUBLIC FACILITIES THERE.

TEVASA (Youth) – SO THEY ARE GOING TO PUT THE GRAVELS. AND IF THE SAND COMES, IT WILL BE COVERED BY THE GRAVELS, AGAIN YOU PUT THE GRAVELS. HOW ARE YOU GOING TO CONSTRUCT?

TUTZ (Kaupule Funafuti) – NO NOT LIKE THAT, THE GRAVELS IS GOING TO BE REMAINED.

TEVASA (Youth) – MAY BE THIS KIND OF IMPACT ON OUR SAND BECAUSE OF THE JETTY AND THE CATALINA RAMP.

PEITALA (Kaupule Funafuti) – YEAH YOU ARE RIGHT.

TEVASA (Youth) – LONG AGO WHEN I WAS LITTLE, THE LAGOON NEAR THE CATALINA RAMP WAS VERY DEEP, AND NOW IT'S NOT SO DEEP.

Yurie (J-PACE) – IT'S SAME AS BLOWN PITS. MOST OF THE SANDS WHICH WAS MOVED FROM THE NORTHERN STREAM HAS ACCUMULATED NEAR THE CATALINA RAMP.

FANE (Youth)– WHERE ARE THE MOST PLACES THAT STRONGLY AFFECT IN TIMES OF FLOOD AND HIGH TIDE?

PEITALA (Kaupule Funafuti) – AS YOU CAN SEE FROM THE SLIDES I HAVE SHOWN YOU THE PLACES THAT THE CIRCLE, YEAH THAT'S IT, BUT WE ARE GOING ON THE MAJORITY, WHERE PEOPLE LIVED

ACQUIREMENT OF GRAVELS AND SANDS

FANE (Youth) – ANY IMPACT ON THE ISLAND IF YOU TAKE AWAY THE GRAVELS?

TUTZ (Kaupule Funafuti) – J-PACE HAS ALREADY INVESTIGATED THAT. THERE IS LITTLE IMPACT.

TALA (Youth) – YOU SAID THAT THE GRAVELS FROM THE RUNAWAY FOR BORROW

PIT, WHAT ABOUT THOSE PLACES WHICH HAS BEEN ALREADY FLATED?

TUTZ (Kaupule Funafuti) – IT WILL REMAIN AS THE SAME.

TALA (Youth)– WHERE CAN YOU GET THE SAND?

PEITALA (Kaupule Funafuti) – J-PACE WILL GET IT FROM LAGOON SIDE TO BACKFILL THE RUNAWAY AFTER GETTING GRAVELS.

KELESI (Youth) – GETTING THE GRAVELS FROM THE ISLETS, IS THERE ANY IMPACT ON THE ISLETS?

PEITALA (Kaupule Funafuti) – J-PACE HAS ALREADY INVESTIVATED. IMPACT WILL NOT BE MUCH.

TEVASA & JOSH (Youth) – ABOUT THE GRAVELS, YOU WILL GET NEAR THE RUNAWAY. AFTER THAT, NO MORE FLOOD?

PEITALA (Kaupule Funafuti) – NO BECAUSE THAT WHOLE IS GOING TO BE FILLED AGAIN.

KELESI (Youth) – WHY NOT WE GET THE BIG ROCK FOR REFILL?

PEITALA (Kaupule Funafuti) – BECAUSE OF NOT ENOUGH GRAVELS THAT IS NEEDED FOR THE IMPLEMENTATION, THAT WHY WE ALSO NEED TO GET THE SAND FROM THE LAGOON.

TEVASA (Youth) – HOW YOU GET THE GRAVELS UNDER AND NEAR THE ISLET?

PEITALA (Kaupule Funafuti) – OF COURSE WITH MACHINES

KELESI (Youth) – REGARDING THE GRAVELS REMOVED FROM THE ISLETS, CAN IT BE REPLACED BY NATURAL?

YURIE (J-PACE) – YES EXACTLY.

FISHREMEN CONSIDERATION

TALA (Youth) – WHAT ABOUT OUR BOATS?

PEITALA (Kaupule Funafuti) – WE WILL CONSIDER THAT. WE ARE PLANNING TO ORGANIZE THE SPECIFIC MEETING FOR FISHERMEN.

LANDOWNERSHIP

KELESI (Youth) – I THINK THAT THE GRAVELS IS FROM THE LEASE OF THE LAND OWNERS, SO WHY THE GOVERNMENT OWN IT?

ALOAMA (Youth)– I AGREE WITH THE J-PACE TO MAKE A BYELAW, SO THERE IS NO FIGHTING AFTER ALL.

TEVASA (Youth) – IT’S GOOD TO GIVE TO THE FALEKAUPULE SO THAT IT CAN BECOME LIKE A COMMUNITY LAND

TALA (Youth) – I WANT TO LOCATE A FLOATING RAMP, MADE UP OF WOOD.

YURIE (J-PACE) – YES THAT IS ONE OF THE OPTIONS, BUT IT CAN BE EASILY DAMAGED BY STRONG WINDS AND OTHERS.

MONITORING AND MAINTENANCE

TALA (Youth) – I THINK IT’S GOOD TO RENT IT OUT, SO THAT WE CAN HAVE MONEY?

YURIE (J-PACE)– NO THAT IS NOT RENTABLE. YOU CAN’T EARN ANY MONEY FROM THE NOURISHED BEACH.

TEVASA (Youth) – IS IT OK IF WE SHIFT OUR HOUSES ON THIS NEW LAND, ONLY THE FUNAFUTI COMMUNITY?

YURIE (J-PACE) – NO, IT’S NOT ALLOWED. IT WILL MAKE THE NOURISHED BEACH DAMAGE.

TEVASA (Youth) – WHO IS REPOSNSIBLE FOR PLANTING?

TUTZ (Kaupule Funafuti) – WELL IT MIGHT BE IMPLEMENTED BY THE NAPA PROJECT. BUT WE CAN HELP THEM.

YURIE (J-PACE) – WHAT HELP CAN YOUTH PROVIDE?

FANE (Youth) – HELP THE MEN ON GETTING THE GRAVELS, AND AFTER THE PROJECT, WE CAN LOOK AND TAKE GOOD CARE OF IT.

KELESI (Youth) – AFTER THE CONSTRUCTION, THERE SHOULD BE A PENALTY TO THOSE WHO MIUSE THE NEW LAND.

PEITALA(Kaupule Funafuti) – THERE IS ALREADY A LAW LIKE THAT FROM THE KAUPULE TO THOSE WHO MISUSE THE LAND.

TEVASA (Youth) – I WANT TO MAKE A LAW LIKE WHOEVER IS CAUGHT BECAUSE OF MISUSING THE NEW LAND, WHICH SHOULD FEED THE WHOLE FUNAFUTI COMMUNITY. IF SHE OR HE CAN’T FOLLOW THEN THAT PERSON SHOULD BE PENALIZED.

FANE (Youth) – NOT TO DUMP THE RUBBISH ON THE NEW LAND. IT SHOULD BE LIKE A CONSERVATION AREA.

SAMILA (Youth) – LITTERING FINE SHOULD BE \$100.00

THANK YOU FOR COMING

CLOSE THE MEETING

J-PACE MEETING WITH ALL THE FISHERMEN ON FUNAFUTI ISLAND

(Mon, 13th September 2010)

SEMESE (Kaupule Funafuti) – INTRODUCE THE TEAM, AFTER THAT CONTINUED WITH THE EXPLANATION OF THE PRESENTATION.

BEACH NOURISHMENT

VAGUNA (Fishermen) – THE NEW LAND, YOU ADD IT OR IS IT ADDED BY ITSELF.

KILISI (Kaupule Funafuti) – ITSELF

PASEFIKA (Fishermen) – IN TIMES OF STRONG WIND OR BAD WEATHER, DOES THE GRAVELS MOVED AWAY BECAUSE OF THE SEA CURRENT?

SEMESE (Kaupule Funafuti) – THEY SAID IT IS IMPOSSIBLE. GRAVELS WILL BE REMAINED.

PASEFIKA (Fishermen) – I AM TALKING ABOUT THE BIG BLOCKS WHICH WAS HERE BEFORE, AND WHEN THERES A STRONG WIND, THOSE BLOCKS IMMEDIATELY MOVED, AND WHAT THOSE GRAVELS, THEY ARE SO LITTLE AND VERY LIGHT, THERE IS A POSSIBLE THAT THEY CAN BE EASILY WASH AWAY, SO WHAT DO SAY ABOUT THAT?

SEMESE (Kaupule Funafuti) – WELL, IN THAT CASE, YOU MUST BE RIGTE, BUT THE GRAVELS UTILIZED FOR BEACH NOURISHMENT CAN MOVE A LITTLE BIT NOT TOO MUCH.

LOPATI (Fishermen) – DOES THAT NEW LAND CONNECT TO THE PRESENT LAND?

KILISI (Kaupule Funafuti) – YES

NIU (Fishermen) – IS IT GRAVELS ONLY OR IS IT TOGETHER WITH SAND?

KILIKI (Kaupule Funafuti) – YES, IN THE BEGINNING ITS GOING TO BE GRAVELS ONLY, THEN AFTERWARDS FOR YEEARS THE SAND WILL COME ITSELF TO STAY ON THESE GRAVELS.

LOPATI (Fishermen) – WHO IS GOING TO PROVIDE THE GRAVELS, THEM OR US?

KILLISI (Kaupule Funafuti) – ACTUALLY US. THEY WILL GAIN GRAVELS FROM TUVALU.

LOPATI (Fishermen) – I DON'T THINK THAT THE EDGE TREATMENT WILL WORK ACCORDING TO OUR ENVIRONMENT, IT WILL BECOME LIKE THE CAUSEWAY, AFTER CONSTRUCTION, THE SEA CURRENT WILL EVENTUALLY TAKE THE GRAVELS AWAY.

KILISI (Kaupule Funafuti) – THEY ALREADY HAVE DISCOVERED POSSIBLE WAYS OF HOW AND WHAT IS BETTER FOR OUR ISLAND, AND THAT IS EDGE TREATMENT, THE AMOUNT OF GRAVELS THAT SHOULD NEED WHICH THE SEA CURRENT WILL NEVER MOVE IT AWAY.

LOPATI (Fishermen) – THE BORROW PITS, THAT WAS DONE BY THE AMERICANS,

ARE YOU GOING TO MAINTAIN?

KILISI (Kaupule Funafuti) - NO. THE PROJECT WILL BACKFILL THEM.

LOPATI (Fishermen) – THE HOLES NEAR THE CATALINA, ARE YOU GOING TO DO SOMETHING ABOUT IT?

SEMESE (Kaupule Funafuti) – YES WE WILL. IT WILL BE ALSO BACKFILLED BY THE PROJECT.

LOPATI (Fishermen) - THANKS VERY MUCH

WORKSHOP (DIVIDED INTO TWO GROUPS – GROUP A and GROUP B)

GROUP A – PRESENTER: PASEFIKA. PENITUSI
LOPATI IAKOPO

GROUP B – PRESENTER:

IMPACTS

<Access>

- ① Hard for them to bring their boats onshore, because it's more faraway. (from group A & B)
- ② Hard for them to bring good eg fish, coconuts etc (from group A & B)

<Parapet>

- ③ Parapet will block them, so they have to uplift their boats, which is harder for them. (from group A & B)
- ④ Parapet will block water discharge when flooded. (from group A)

<Boat safety>

- ⑤ The gravels will hit the boats, when low tide, because when high tide, they anchor their boats a bit to shore, but then low tides, for sure their boats will hit. (from group B)

<Land issues>

- ⑥ Who is going to own this new land? (from group A)
- ⑦ Boats will be not allowed to leave on the nourished beach. (from group A)

SOLUTIONS

<Access & Boat safety> ☐☐☐

- To established a boat harbor
- Find a better and specific place for us fishermen
- Build a ramp
- Boat trailer
- Mariner

<Landownership> ☐☐

- we suggest that to give under the ruling of kaupule

GRAVEL MOVEMENT

LOPATI (Fishermen) – ARE YOU SURE THE GRAVELS WILL NOT BE MOVED IN BAD WEATHER?

FEPUALI (Fishermen) – DO YOU OR HAVE YOU EXPERIENCE WHEN THERE IS A BAD WEATHER HIT OUR LAND SO THAT YOU WILL KNOW HOW IT LIKE IS?

LOPATI (Fishermen) – THE SANDY BEACH AT THE LOTOKAVA, IN TIMES OF BAD WEATHER THEY USUALLY MOVED TO THE HOTEL THEN BACK AGAIN, THAT’S HOW THEY MOVED, ARE YOU SURE THAT THE GRAVELS WILL STAY OR REMAIN WHERE THEY SHOULD BE? IS THERE ANY OTHER COUNTRY IN THE PACIFIC THEY HAVE TRIED THIS PROJECT?

J-PACE – WELL AS WE EXPLAINED BEFORE, THEY CAN MOVE, BUT NOT TOO MUCH, JUST A LITTLE BIT. AND IT WON’T MOVE TO OFFSHORE. IT WILL MOVE ALONG COASTAL LINE. WE HAVE EXPERIENCED THIS UNDER THE VARIOUS CONDITIONS.

LOPATI (Fishermen) – NOW IN MY PLACE, THERE IS SOME GRAVEL FROM THE OCEAN SIDE, THEY WERE DRIFTING FROM THERE TO HERE IN THE LAGOON.

SEMESE (Kaupule Funafuti) – ACCORDING TO THEM IN THEIR INVESTIGATIONS AS SCIENTIST, NOTHING IS GOING TO BE HAPPENED, BUT WE THE COMMUNITY WE HAVE KNOWN THIS MOVEMENT FOR SUCH A LONG, BECAUSE IT IS OUR ISLAND

BOAT SAFETY AND ACCESS

PASEFIKA (Fishermen) – WHERE ARE OUR BOATS ANCHOUR WHEN THE NOURISHED BEACH REACHED 20M?

J-PACE – NO, THE 20M IS THE TOTAL LENGTH OF COMPLETED BEACH.

PASEFIKA (Fishermen) – THE PARAPET, IS NOT SO GOOD, CAUSE IT’LL BLOCK US.

J-PACE – WE WILL CONSIDER MAKING A SMALL RAMP WITH PARAPET TO MAKE IT EASY TO CARRY YOUR BOATS.

J-PACE – TO BE CLEAR WITH YOU, YOU IDENTIFIED THE PROBLEMS CAUSED BY THE BEACH NOURISHMENT, WHICH IS THE ACCESS OF YOUR BOAT. HOWEVER, BOAT HARBOR IS NOT GOING TO SOLVE YOUR PROBLEMS, BECAUSE THIS NEED WILL BE FOR YOU FISHERMEN ONLY, AND WHAT ABOUT OTHER FISHERMEN WHICH LIVE 1-2KM AWAT FROM THE HARBOR, THEY CAN ALSO REQUEST FOR THAT, THAT’S NOT THIS PROJECT IS FOR.

PASEFIKA (Fishermen) – I THINK THE ACCESS AND SAFETY ARE LINKED OR THEY ARE THE SAME THING, BUT WE JUST RAISED THAT BECAUSE OF THE WRONG INFORMATION THAT KILISI CAME UP WITH, WHICH IS THAT THE BEACH WILL BE EXTENDED BY THEMSELVES FOREVER. AND THAT IS WHY, BUT IT IS OK WE UNDERSTAND NOW.

KAUSEA (Fishermen)– SAFETY AND ACCESS, THAT’S THE MAIN CONCERN OF THE FISHERMEN IN BAD WEATHER, AND NOT ALL DAY.

LANDOWNERSHIP

ALL – WE AGREE TO LET THE FALEKAUPULE TO OWN THIS NEW LAND

J-PACE – WHY?

LOPATI (Fishermen) – BECAUSE THIS PROJECT IS A REQUEST FROM THE COMMUNITY OF FUNAFUTI AND NOT FROM THE GOVERNMENT.

KAUSEA (Fishermen) – JUST TO HAVE A CLEAR UNDERSTANDING THAT THE CROWN LAND WAS GIVEN BY THE GOVERNMENT OF TUVALU TO THE LOCAL GOVERNMENT, AND SO THAT HOW ITS GOING TO BE, THE FALEKAUPULE.

CLOSE THE MEETING...

3. Results of Feedback Sheet on the Public Hearing

3.1 Results of feedback sheet by 1st Public Hearing

(1) Justification

The basic policy for the Coastal Protection and Rehabilitation Plan was drafted based on the results of baseline surveys which have been conducted since August 2009. The outline of the Plan has been already reported to the Project Coordinate Committee (PCC) and FaleKaupule in March 2010.

However, the Project may affect the quality of life in the local neighborhood when implemented. The decisions for all community matters that are of public interest or political importance are basically made by community, rather than governments. Therefore, it is crucial to reach agreement with local residents on the Project and gain the cooperation of the residents for the implementation.

It is desirable that the concept of the drafted plan including; the need of the Project, the selection process of the target area, the outline of implementation, matters of concern, the resident’s roles and responsibility, should be shared with local residents in the early planning stage. Such interactive communication process with local residents will lead to make a plan more realistic that reflect community’s real need.

(2) Community Involvement in the Planning Process

The community involvement in the planning process is shown in Figure 3.1. Public hearing is planning to be held two times in June 2010 and September 2010. Taking resident’s opinions and other examination results into consideration, the Interim Plan will be developed by August 2010. The Interim Plan will be reviewed and modified through PCC, Seminars and the second public hearing. After series of consultation process, the Final Report including the recommendation for implementation will be developed by December 2010.

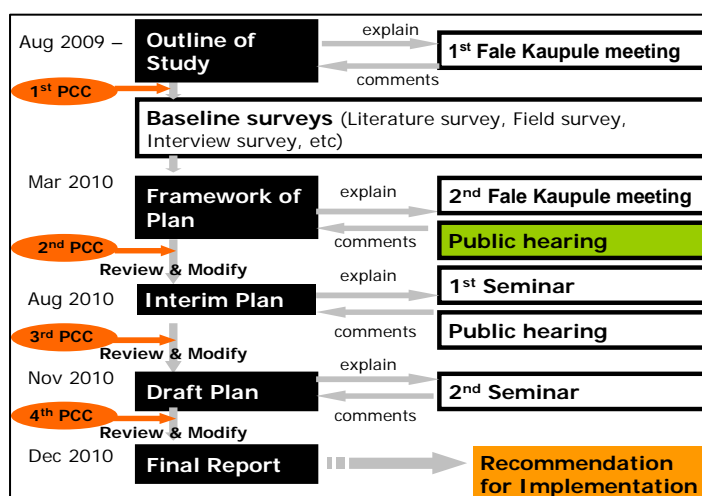


Figure 3.1 Community involvement in the planning process

(3) Purpose

The purposes of the public hearing were to promote community involvement in the planning process, and to gain resident’s opinions on the proposed Plan and countermeasures for coastal protection and rehabilitation.

(4) Target residents

The #1 area in the central part of Fongafale Islet including Senala, Alapu and Vaiaku areas, which is shown in the Figure 3.2, has been selected the highest priority area according to the disaster damage conditions, wave run-ups, and conditions of hinterland. The public hearing targeted residents who live in the above mentioned locations.

The public hearing meetings targeting women and youth were individually organized since women and youth are often excluded from community decision-making. And, the meeting for fishermen was also separately held to make the discussion deeper since the proposed countermeasure will affect their present use of coastal area.

As a result, the four public hearing meetings were organized targeting the following groups.

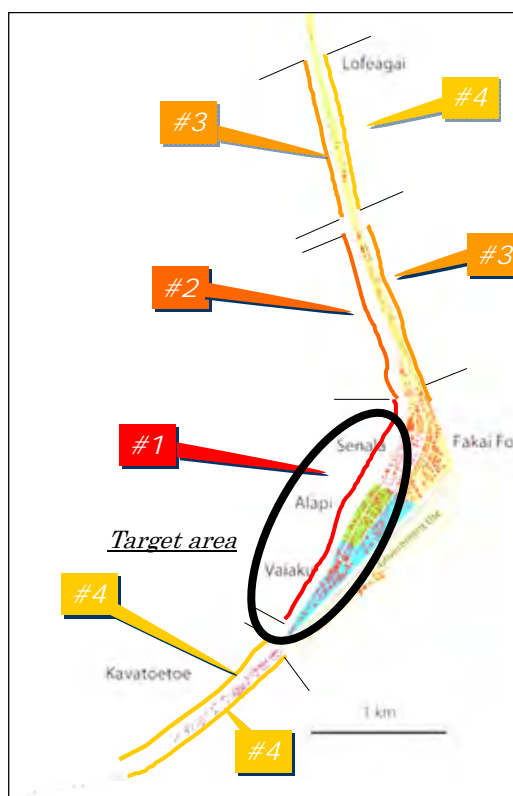


Figure 3.2 Target area

Table 3.1 Target group

Target group
<input type="checkbox"/> Women’s group (living in Alapi, Senala and Vaiaku areas)
<input type="checkbox"/> Residents (ditto)
<input type="checkbox"/> Youth group (ditto)
<input type="checkbox"/> Fishermen group (who use the target area)

(5) Implementation procedure

Invite residents

The public hearing meetings were informed to target residents by the following methods with the assistance of Funafuti Kaupule.

① Fale Kaupule’s Approval

The purpose and method of the public hearing were explained to FaleKaupule by Funafuti Kaupule, and obtained their agreements.

② Distribution of leaflet

Leaflet which explained the justification, purpose and schedule of the public hearing, was developed and translated into Tuvaluan language in cooperation with Funafuti Kaupule staff (Figure 3.3). It was distributed through the house-to-house visit by local volunteers.

③ Cooperation of the president of each group

The President of each group was requested to call members up by Funafiti Kaupule and the Study Team.

④ Radio announcement

The Funafuti Kaupule broadcasted to invite residents through Islet’s radio station at seven (7) times altogether before and the day of the meetings.



Figure 3.3 Leaflet distributed

Schedule

Public hearing meetings except for women group were basically scheduled in the nighttime as follows since most of people were working during the day.

Table 3.2 Schedule

Date	Time	Target group	Presenter
Fri, 11th June, 2010	10:00 - 12:00	☐ Women’s group	Mrs. Peitala
	19:00 - 21:00	☐ Residents	Mr. Apinel
Wed, 16 th June, 2010	10:00 ☐ 12:00	☐ Youth group	Mrs. Peitala
	19:00 - 21:00	☐ Fishermen group(1)	Mr. Apinel
Sun, 20 th June, 2010	19:00 – 20:30	☐ Fishermen group(2)	Mr. Apinel

Public hearings targeting fishermen group were rearranged on Sunday since some fishermen used to fish on weekday night time.

In addition, for women’s group, the Department of Women Development, Ministry of Home Affairs and Rural Development and Tuvalu National Council of Women which are organizations dealing in gender matters, also took part in the meeting for women group. They also attended the second PCC meeting held in March 2010.

Outline of presentation

Cooperation staffs of Funafuti Kaupule translated the presentation materials in English into Tuvaluan language, and also presented in own language. Mrs. Peitala who is a community worker of Funafuti Kaupule presented for women and youth groups, and Mr. Apinel who is a Kaupule staff and former fishermen did for residents and fishermen group. The Study Team made presentation materials with script, and then gave the brief of each slide to make two presenters fully understood. The outline of presentation is as follows.

Table 3.3 Outline of presentation

	Items	Contents
1	Outline of the Study	<ul style="list-style-type: none"> - Background - Objective - Process for plan formulation (Community involvement in the planning process)
2	Summarized Report on the results of Baseline Study (<i>What J-PACE has found</i>)	<ul style="list-style-type: none"> - Status of sea-level rising - Damage caused by coastal disaster (based on the interview survey) - Coastal erosion caused by sand movement
3	Basic Policy for Coastal Protection and Rehabilitation Plan and Proposed Countermeasures (<i>What we will do / What you will be requested</i>)	<ul style="list-style-type: none"> - Select priority areas - Examine an appropriate coastal protection work for each area (Advantage and disadvantage of each work; seawall, breakwater and beach nourishment) - Matters of concerns (Lagoon use, land owner issues, the need of monitoring and maintenance etc) - Examine the monitoring and maintenance method
4	Matters to be Discussed	<ul style="list-style-type: none"> - Current use of priority area - Obstacles to be caused by the implementation of the Project. - Action for coastal protection at the priority area - Possibility that the community can work for coastal management, especially for monitoring and maintenance work. - Affairs or concerns for the Project. - Activities to be implemented to the community before or during or after the Project. - Others

Feedback sheet

Some resident might not used to speaking in public, so that the feedback sheet written in Tuvaluan language was distributed to each participants to know the level of understanding of residents and their opinions as much as possible. The contents of the feedback sheet are shown in Table 3.4.

Table 3.4 Contents of feedback

Questions	
1 . Evaluation of the level of understanding (Yes/No/Not sure/N/A)	
1	Could you understand what J-PACE is trying to do?
2	Could you understand the actual situation of coastal disaster including sea-level rising?
3	Could you understand the mechanism of sand movement on Fongafale Islet?
4	Do you agree that the central part of Fongafale Islet is the highest priority area?
5	Could you understand the advantage and disadvantage of each coastal protection work (seawall, breakwater and beach nourishment)?
6	Do you agree that beach nourishment is the most appropriate method for the priority area?
7	Do you think the community has an important role and responsibility for coastal protection?
8	Could you understand the importance of beach?
9	Are you willing to involve in monitoring and maintenance activity in future?
10	Are you willing to attend the next meeting?
2 . Comments and suggestions (qualitative description)	
1	For proposed coastal protection work
2	For education and awareness
3	For monitoring and maintenance method
4	For J-PACE and/or Kaupule
5	For the whole session

(6) Photos

① Public hearing for Women group



Photo3.1 Public hearing for women group



Photo3.2 Discussion among participants

② Public hearing for residents



Photo3.3 Public hearing for residents



Photo3.4 Priority area was shown by presenter (Kaupule staff)

③ Public hearing for youth group



Photo3.5 Youths raising their hands in a show of their idea for the most appropriate coastal work



Photo3.6 Participants filling in the feedback sheet

④ Public hearing for fishermen group



Photo3.7 Options of coastal protection works were shown by presenter (Kaupule staff)



Photo3.8 The second public hearing for fishermen

(7) Results

① Questions and comments given by residents (during and after the presentation)

	Women group	Residents	Youth group	Fishermen group
Questions	<ul style="list-style-type: none"> - Materials, size and distance from the land (Seawall, Breakwater) - <u>Place to get gravels</u> - <u>Possibility that gravels will remove from where they are by the sea or the current</u> - Example of beach nourishment project implemented in other countries or islands - <u>Possibility that the project can include not only the lagoon side but the sea side</u> - Effectiveness of planting trees near the coastal area for coastal protection 	<ul style="list-style-type: none"> - Disadvantage and distance from the land (Breakwater) - Distance from the land (Beach nourishment) - <u>Possibility that gravel will remove from where they are by the sea or the current</u> - <u>Potential of beach nourishment to overcome the problem of the sea level rise, which could be 1.5m. (J-PACE answered that we presumed 1.2m as a maximum wave based on the past experience in Tuvalu and new beach will ensure absolute protection against wave of 1.2m)</u> - <u>Possibility that the project include not only the lagoon side but the sea side</u> - Jetty located at Vaiaku Warf should remove away or not. - <u>Reasons why the boat harbor can't be established</u> - <u>Committee members to be involved and implementation system for monitoring and maintenance</u> - <u>Possibility that Tuvalu can get continuous assistance from Japan</u> 	<ul style="list-style-type: none"> - Criteria to select the most appropriate coastal protection work - Construction procedure of beach nourishment - <u>Possibility that installed gravels can be allowed to use for building houses</u> - Impact on the habitat of coral underneath caused by beach nourishment - <u>Alternatives of beach nourishment when it is not working well</u> - Possibility that the coral is growing up when sea level rise - Process of sand generation (J-PACE explained the outline of the Forum Sand Project) 	<ul style="list-style-type: none"> - Height and the level of coastal protection against high waves (Breakwater) - Scale of area where beach nourishment to be implemented - <u>Place to get gravel</u> - <u>Impact on the place where are dug for getting gravels</u> - <u>Possibility that gravels will remove from where they are by the sea or the current</u> - <u>Possibility that people can use the handcarts and trucks to get their fish from the sea on new beach</u> - Reasons why the Fongafale Islet was selected as priority site. - <u>Possibility that J-PACE can provide ramps</u>

		<p>for the monitoring and maintenance after the project implemented</p> <ul style="list-style-type: none"> - Necessary construction period 		
Comments	<ul style="list-style-type: none"> - All participants agreed the idea of beach nourishment. - Breakwater will block the fishing place of fishermen, and also our children will get injured from jumping on that wall, because I believe that no matter we inform our children about that wall, but they will not listen. 	<ul style="list-style-type: none"> - <u>Breakwater might block the view from the main land. It doesn't matter for us. We need protection against Tsunami.</u> - Lastly, all participants agreed the idea of beach nourishment. 	<ul style="list-style-type: none"> - Participants preferred breakwater and beach nourishment on a fifty-fifty basis. - I prefer the option of breakwater since I will swim down <u>to the bottom of the walls and tie the rope of my boat.</u> 	<ul style="list-style-type: none"> - Participant's opinions were divided as to which to be the most appropriate coastal protection work. - (Seawall, Breakwater) we will face a really big problem due to lack of way of getting our boats on shore and off shore. - (Breakwater) It will be better, that will produce more sand compared to Seawall. We have experienced the erosion by the construction of seawall. / It might block the view from the main land. It doesn't matter for us. We need protection against sea level rising. / It will make our boats safe from the strong winds if we park our boats between the breakwater and the land. - (Beach nourishment) It is better, because it's creating new lands and not only that easy for us to get our boats from and to shore. / <u>it's good to help us in providing us something that can lift our boats because as we know that if we push or slide our boat from the sea onto the land, our boats will be damaged caused by these gravels.</u> - <u>I suggest that it's better to give us the Land owner to own that new</u>

				land, that's because this project was a request direct from the Funafuti community to the government of Japan. (J-PACE and Kaupule explained the update afterward and the requirement of ODA project)
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② Answers for the questions from the Study Team

	Women group	Residents	Youth group	Fishermen group
1. Current use of priority area	<ul style="list-style-type: none"> - Fishing - Collecting shells - Bathing - Toilet - Holding a special occasion like group of men going out fishing is normally call as a <u>FAIVA</u>, welcoming of higher people from the outer islands, and we use our traditional way of welcoming. 	<ul style="list-style-type: none"> - Fishing - Collecting shells - Bathing - Toilet 	<ul style="list-style-type: none"> - Fishing - Collecting of seashells - Bathing etc 	<ul style="list-style-type: none"> - <u>Some go fishing all days, so they leave their boat on lagoon for like 1 to 2 months, and for other fishermen who are just fishing for 2-3 days a week, they have to get rid off their boat as soon they finish fishing.</u> - <u>People bring their boat from the sea 2 to 3 times a year when natural disaster (strong wind warning, hurricanes) happened</u>
2. Obstacles to be caused by the implementation of the Project.	<ul style="list-style-type: none"> - Women don't have any. - <u>Just worried about fisherman who may need to go far way.</u> 	<ul style="list-style-type: none"> - We are not sure for now, after the Project implemented, maybe we will find out. 	<ul style="list-style-type: none"> - <u>Shells will die due to beach nourishment.</u> (J-PACE answered that we are trying to protect the sand where already exist, and would install the gravels to where the sands have been already disappeared) 	<ul style="list-style-type: none"> - <u>It will get harder for fisherman to go out fishing during the construction work.</u> (J-PACE mentioned that the construction work will be undertaken in phases)
3. Action for coastal protection at the priority area	<ul style="list-style-type: none"> - Never done at priority area. - Just planted mangroves at Funafala. 	<ul style="list-style-type: none"> - Two types of seawall (gauge-wired one, block-made one) for the Fongafale area 	<ul style="list-style-type: none"> - Collecting the rubbish from the shores 	

<p>4. Possibility that the community can work for coastal management, especially for monitoring and maintenance work.</p>	<ul style="list-style-type: none"> - Women can help but in terms of making the food for the workers, that's the only activities we women can make, but in terms of hard work, for sure Men are responsible for that. - Women also can inform their children for the useful of this project and that gravel is not allowed to remove. 	<ul style="list-style-type: none"> - We can help only <u>if we do have sponsor or paid.</u> - For monitoring and maintenance, we are happy of that if possible. For that, <u>capacity building and awareness programme and training for the community to be conducted.</u> 	<ul style="list-style-type: none"> - Yes of course we can for the better of our coming generation. - Yes, so that we can advice others on how important this and for us youths. 	<ul style="list-style-type: none"> -
<p>5. Affairs or concerns for the Project.</p>	<ul style="list-style-type: none"> - <u>There should a law or rule to be made, for anyone who is going to remove the gravels for building houses and other things</u> - Some people can allow others to remove only if they need the money. - <u>Other way of making such rule to be stronger, we should inform the Police force to look after the gravels, offenders should put in jail.</u> 	<ul style="list-style-type: none"> - Disadvantages of beach nourishment - We don't have any now, but <u>some will be come up later on during and after the implementation. (J-PACE resopded that series of consultation and communication with community will be taken place during the implementation)</u> 	<ul style="list-style-type: none"> - <u>Keep J-PACE on coming to monitor and maintain the project and give us assistance.</u> 	<ul style="list-style-type: none"> - Nothing at all - We just want to get the work done as fast as you can.
<p>6. Activities to be implemented to the community before or during or after the Project.</p> <p>-</p>	<ul style="list-style-type: none"> - 	<ul style="list-style-type: none"> - It is important for the community to get involve, we the community are going to responsible for taking good care of this implementation when the J-PACE go back. - <u>Awareness programme. Some people disposed their rubbish on the beach. These activities should be prohibited under the Fale Kaupule Act.</u> 	<ul style="list-style-type: none"> - To be strict, so that to be sure no one is going to disobey it, or break it 	<ul style="list-style-type: none"> - <u>It will hard for fisherman to get their boats from the sea to shore after the construction, so that it could better if you provide a trailer for our boats to pull up boats after using.</u>

7. Others	-	- Please don't just leave us for the monitoring and maintenance, it should be monitored by the J-PACE itself.	-	- <u>Some anchor for our boats.</u> - <u>Special place for our boats to be safe from the wind or hurricanes</u>
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③ Results of Feedback sheet

	Women group	Residents	Youth group	Fishermen group
1. Evaluation of the level of understanding (Yes/No/Not sure/N/A)				
1 Could you understand what J-PACE is trying to do?	YES: 13 (92.9%) NO: 1 (7.1%) Not sure: 0 (0%) N/A: 0 (0%)	YES: 12 (85.7%) NO: 1 (7.1%) Not sure: 1 (7.1%) N/A: 0 (0%)	YES: 18 (100%) NO: 0 (0%) Not sure: 0 (0%) N/A: 0 (0%)	YES: 11 (91.7%) NO: 1 (8.3%) Not sure: 0 (0%) N/A: 0 (0%)
2 Could you understand the actual situation of coastal disaster including sea-level rising?	YES: 13 (92.9%) NO: 1 (7.1%) Not sure: 0 (0%) N/A: 0 (0%)	YES: 14 (100%) NO: 0 (0%) Not sure: 0 (0%) N/A: 0 (0%)	YES: 18 (100%) NO: 0 (0%) Not sure: 0 (0%) N/A: 0 (0%)	YES: 10 (83.3%) NO: 2 (16.7%) Not sure: 0 (0%) N/A: 0 (0%)
3 Could you understand the mechanism of sand movement on	YES: 8 (57.1%) NO: 6 (42.9%)	YES: 11 (78.6%) NO: 1 (7.1%)	YES: 18 (100%) NO: 0 (0%)	YES: 8 (66.7%) NO: 4 (33.3%)

Fongafale Islet?	Not sure: 0 (0%) N/A: 0 (0%)	Not sure: 1 (7.1%) N/A: 1 (7.1%)	Not sure: 0 (0%) N/A: 0 (0%)	Not sure: 0 (0%) N/A: 0 (0%)
4 Do you agree that the central part of Fongafale Islet is the highest priority area?	YES: 12 (85.7%) NO: 1 (7.1%) Not sure: 0 (0%) N/A: 1 (7.1%)	YES: 14 (100%) NO: 0 (0%) Not sure: 0 (0%) N/A: 0 (0%)	YES: 18 (100%) NO: 0 (0%) Not sure: 0 (0%) N/A: 0 (0%)	YES: 11 (91.7%) NO: 1 (8.3%) Not sure: 0 (0%) N/A: 0 (0%)
5 Could you understand the advantage and disadvantage of each coastal protection work (seawall, breakwater and beach nourishment)?	YES: 9 (64.3%) NO: 3 (21.4%) Not sure: 2 (14.3%) N/A: 1 (7.1%)	YES: 11 (78.6%) NO: 2 (14.3%) Not sure: 1 (7.1%) N/A: 0 (0%)	YES: 18 (100%) NO: 0 (0%) Not sure: 0 (0%) N/A: 0 (0%)	YES: 9 (75.0%) NO: 3 (7.1%) Not sure: 0 (0%) N/A: 0 (0%)
6 Do you agree that beach nourishment is the most appropriate method for the priority area?	YES: 11 (78.6%) NO: 0 (0%) Not sure: 2 (14.3%) N/A: 1 (7.1%)	YES: 12 (85.7%) NO: 0 (0%) Not sure: 2 (14.3%) N/A: 0 (0%)	YES: 17 (94.4%) NO: 0 (0%) Not sure: 1 (5.6%) N/A: 0 (0%)	YES: 12 (100%) NO: 0 (0%) Not sure: 0 (0%) N/A: 0 (0%)

7 Do you think the community has an important role and responsibility for coastal protection?	YES: 13 (92.9%) NO: 0 (0%) Not sure: 1 (7.1%) N/A: 0 (0%)	YES: 14 (100%) NO: 0 (0%) Not sure: 0 (0%) N/A: 0 (0%)	YES: 17 (94.4%) NO: 0 (0%) Not sure: 1 (5.6%) N/A: 0 (0%)	YES: 12 (100%) NO: 0 (0%) Not sure: 0 (0%) N/A: 0 (0%)
8 Could you understand the importance of beach?	YES: 10 (71.4%) NO: 2 (14.3%) Not sure: 1 (7.1%) N/A: 1 (7.1%)	YES: 14 (100%) NO: 0 (0%) Not sure: 0 (0%) N/A: 0 (0%)	YES: 18 (100%) NO: 0 (0%) Not sure: 0 (0%) N/A: 0 (0%)	YES: 12 (100%) NO: 0 (0%) Not sure: 0 (0%) N/A: 0 (0%)
9 Are you willing to involve in monitoring and maintenance activity in future?	YES: 14 (100%) NO: 0 (0%) Not sure: 0 (0%) N/A: 0 (0%)	YES: 13 (92.9%) NO: 1 (7.1%) Not sure: 0 (0%) N/A: 0 (0%)	YES: 17 (94.4%) NO: 0 (0%) Not sure: 0 (0%) N/A: 1 (5.6%)	YES: 12 (100%) NO: 0 (0%) Not sure: 0 (0%) N/A: 0 (0%)
10 Are you willing to attend the next meeting?	YES: 14 (100%) NO: 0 (0%) Not sure: 0 (0%) N/A: 0 (0%)	YES: 13 (92.9%) NO: 0 (0%) Not sure: 0 (0%) N/A: 1 (7.10%)	YES: 17 (94.4%) NO: 0 (0%) Not sure: 1 (5.6%) N/A: 0 (0%)	YES: 12 (100%) NO: 0 (0%) Not sure: 0 (0%) N/A: 0 (0%)

2 . Comments and suggestions (qualitative description)				
<p>1. For proposed coastal protection work</p>	<ul style="list-style-type: none"> - <u>Plant big trees at coastal area</u> - Keep and educate young children - Teach everyone of this project and also its benefit for future generation. - People should work together for this project. - <u>There should be workshops for women.</u> - Everyone should accept this project for the good implementation of this project - Teach everyone of this project and also its benefit for future generation. 	<ul style="list-style-type: none"> - People should know and think well about this project - We should keep them properly - Should teach the children - This project should be done for the better of this Island - <u>Need money</u> - <u>Plant trees so they can grow at our coastal area</u> 	<ul style="list-style-type: none"> - <u>Project to start as soon as possible</u> - There should be an appointed committee or organisation to work together with J-PACE in this project - <u>LAW INFORCE needed to stop people misusing our beaches.</u> - <u>Dumping of rubbish at sea/coastal area to be prohibited or banned (by Kaupule)</u> - KAUPULE and everyone involved in this project should follow and guided by J-PACE - Educate everyone - Help one another protect our coastal area - <u>Pant big tree's near coastal area's</u> - Everyone are responsible for this project to run smoothly 	<ul style="list-style-type: none"> - Widen awareness and teach everyone of this project - Coastal area's to be well looked after
<p>2. For education and awareness</p>	<ul style="list-style-type: none"> - <u>Programs on radio and workshops to women</u> for their contribution in accomplish this project. - Provide awareness workshop and programme for the public so everyone is familiar with this project. 	<ul style="list-style-type: none"> - There should be workshops so people can be aware of. - Should teach our youths and children - The community should get involve until the project is finished. - Announcement on Radio 	<ul style="list-style-type: none"> - Educate & remind the community that it is their responsibility to look after their Coastal area - <u>Need more and frequent awareness workshop, training and radio protrammme, for the whole community to well aware of how important is their coastal area to them, especially for youth and communities</u> - Tell others who did not attend this workshop, how important this project is. 	<ul style="list-style-type: none"> - <u>Workshop and awareness programmes on Radio to alert everyone</u>

<p>3. For monitoring and maintenance method</p>	<ul style="list-style-type: none"> - <u>Kaupule or the Island Community has to be in charge.</u> - Every organization should work together and everything will work together - Announcement on Radio and put on posters - People should plant big trees at coastal area. - <u>To apply the law to stop people from misusing the beach. (carry gravel)</u> - <u>Fale Kaupule own gravel, enforcement by Kaupule</u> - We should work closely <u>men and women</u> for the betterment of this Island 	<ul style="list-style-type: none"> - <u>There should be a law enforce so people can stop abusing the beach.</u> - Everyone should work along with each other thoroughly 	<ul style="list-style-type: none"> - It's our nation, our island so it's our duty to look after our coastal area - Frequent Activities, Advertisement on radio and education will be the key to this problem - <u>Kaupule to assign a special force or committee to check on people misusing our coastal</u> - <u>There should be a LAW INFORCE for this project and our coastal area, and anyone breach this Law should be FIN for those destroying the project. eg carry gravels and sand, minimized building of seawall and jetty that will use our gravels and sand</u> - Fishermen to look after coastal area's where they kept there boat 	<ul style="list-style-type: none"> - <u>Misusing of coastal areas to be prohibited</u> - to work together help one another look after our coastal area
<p>4. For J-PACE and/or Kaupule</p>	<ul style="list-style-type: none"> - Community should work together - Kaupule should work along with J-PACE - J-PACE should watch carefully to protect this Island. - Should start the work quickly as soon as possible as our beach is eroding. - <u>To accept women at any project so they can be involve.</u> 	<ul style="list-style-type: none"> - <u>Should have another check on after the project done in the 5 years time</u> - Kaupule should focus on the lives of people - <u>To start immediately this project.</u> - Everyone should work along to accomplish 	<ul style="list-style-type: none"> - Kaupule to work alongside J-PACE and give J-PACE whatever help they might need - It's a hard work for J-PACE, so it's everyone's responsibility to help J-PACE - Keep up and educate people to aware of this present problem affecting our coastal area 	<ul style="list-style-type: none"> - Kaupule and J-PACE to work together as a team
<p>5. For the whole session</p>	<ul style="list-style-type: none"> - I think everyone staying on the Capital should work together. - It is everyone reconcilability to assist the project and comply 	<ul style="list-style-type: none"> - Really need the help of the community for future generation of Funafuti - Yes, should be accomplishing 	<ul style="list-style-type: none"> - We can only be happy and safe once this project is completed - Work together for the benefit of our future children 	<ul style="list-style-type: none"> - Work together for a better tomorrow - Work together till completion of this project

	<p>with it's rule so it can keep going.</p> <ul style="list-style-type: none"> - <u>Women must be in this project for its running.</u> - <u>As this Project is useful for the Island so it must start right-away.</u> - I expect this project accomplished 	<p>and running smoothly until it is fully finished.</p> <ul style="list-style-type: none"> - <u>To start as quickly as possible.</u> 	<ul style="list-style-type: none"> - Hope this project will work nicely and smooth - This project is useful for us and our future generation - Help one another on this project for a better tomorrow - <u>This workshop is useful as it helps coastal erosion</u> 	
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3.2 Results of Feedback Sheet by 2nd Public Hearing

(1) Implementation procedure

Feedback sheet

Some resident might not used to speaking in public, so that the feedback sheet written in Tuvaluan language was distributed to each participants to know the level of understanding of residents and their opinions as much as possible. The contents of the feedback sheet are shown in Table 3.5.

Table 3.5 Contents of feedback

	Questions
1 . Evaluation of the level of understanding (Yes/No/Not sure/N/A)	
1	Could you understand what J-PACE is trying to do?
2	Could you understand the actual situation of coastal disaster including sea-level rising?
3	Could you understand the mechanism of sand movement on Fongafale Islet?
4	Do you agree that the central part of Fongafale Islet is the highest priority area?
5	Could you understand the advantage and disadvantage of each coastal protection work (seawall, breakwater and beach nourishment)?
6	Do you agree that beach nourishment is the most appropriate method for the priority area?
7	Do you think the community has an important role and responsibility for coastal protection?
8	Could you understand the importance of beach?
9	Are you willing to involve in monitoring and maintenance activity in future?
10	Are you willing to attend the next meeting?
2 . Comments and suggestions (qualitative description)	
1	For proposed coastal protection work
2	For education and awareness
3	For monitoring and maintenance method
4	For J-PACE and/or Kaupule
5	For the whole session

(2) Results of Feedback sheet

	Fale Kaupule	Masaua(Men)	Women	Youth	Fishermen group
Recovery rate of the questionnaire	87.9% (=29/33)	70.6% (=12/17)	Funafuti: 93.1%(=27/29) Vaiaku: 81.8%(=9/11)	68.8% (=22/32)	88.9% (16/18)
[Session 1] Seminar on coastal protection in Tuvalu					
1. Could you understand the actual situation of coastal disaster including sea-level rising?	YES: 27 (93.1%) NO: 1 (3.4%) Not sure: 1 (3.4%)	YES: 11 (91.7%) NO: 1 (0%) Not sure: 1 (8.3%)	(Funafuti/Vaiaku) YES: 35 (97.2%) NO: 1 (2.8%) Not sure: 0 (0%)	YES: 22 (100%) NO: 0 (0%) Not sure: 0 (0%)	-
2. Could you understand the mechanism of sand movement on Fongafale Islet?	YES: 24 (82.8%) NO: 1 (3.4%) Not sure: 4 (13.8%)	YES: 9 (75.0%) NO: 2 (16.7%) Not sure: 1 (8.3%)	(Funafuti/Vaiaku) YES: 32 (88.9%) NO: 2 (5.6%) Not sure: 2(5.6%)	YES: 19 (86.4%) NO: 1 (4.5%) Not sure: 2 (9.1%)	-
3. Do you agree that the central part of Fongafale Islet is the highest priority area?	YES: 29 (100.0%) NO: 0 (0%)	YES: 10 (83.3%) NO: 2 (16.7%)	(Funafuti/Vaiaku) YES: 35 (97.2%) NO: 0 (0%)	YES: 21 (95.5%) NO: 0 (0%)	-

	Not sure: 0 (0%)	Not sure: 0 (0%)	Not sure: 1 (2.8%)	Not sure: 1 (4.5%)	
4. Could you understand the advantage and disadvantage of each coastal protection work (seawall, breakwater and beach nourishment)?	YES: 24 (82.8%) NO: 4 (13.8%) Not sure: 1 (3.4%)	YES: 11 (91.7%) NO: 0 (0%) Not sure: 1 (8.3%)	(Funafuti/Vaiaku) YES: 34 (94.4%) NO: 0 (0%) Not sure: 2 (5.6%)	YES: 13 (59.1%) NO: 4 (13.8%) Not sure: 5 (22.7%)	-
5. Do you agree that beach nourishment is the most appropriate method for the priority area?	YES: 26 (89.7%) NO: 0 (0%) Not sure: 3 (10.3%)	YES: 11 (91.7%) NO: 0 (0%) Not sure: 1 (8.3%)	(Funafuti/Vaiaku) YES: 28 (77.8%) NO: 3 (8.3%) Not sure: 5 (13.9%)	YES: 22 (100%) NO: 0 (0%) Not sure: 0 (0%)	YES: 14 (87.5%) NO: 2 (12.5%) Not sure: 0 (0%)
[Session 2] Proposed plan and countermeasures					
6. Do you agree the basic design of beach nourishment including edge treatments and parapet?	YES: 26 (89.7%) NO: 1 (3.4%)	YES: 10 (83.3%) NO: 1 (8.3%)	(Funafuti/Vaiaku) YES: 26 (89.7%) NO: 1 (3.4%)	YES: 20 (90.9%) NO: 1 (4.5%)	YES: 14(87.5%) NO: 1 (6.3%)

	Not sure: 2 (6.9%)	Not sure: 1 (8.3%)	Not sure: 2 (6.9%)	Not sure: 1 (4.5%)	Not sure: 1 (6.3%)
7. Who should have the landownership of the newly nourished beach?	<p>Crown/government: 0(0%)</p> <p>Kaupule Funafuti :6(20.7%)</p> <p>Fale Kaupule: 19 (65.5%)</p> <p>Landowner: 4 (13.8%)</p> <p>Others: 0 (0%)</p> <p>N/A: 0 (0%)</p>	<p>Crown/government: 0(0%)</p> <p>Kaupule Funafuti:3 (10.3%)</p> <p>Fale Kaupule: 6 (20.7%)</p> <p>Landowner: 0 (0%)</p> <p>Others: 0 (0%)</p> <p>N/A: 3 (10.3%)</p>	<p>(Funafuti)</p> <p>Crown/government:1(3.7%)</p> <p>Kaupule Funafuti :4(20.7%)</p> <p>Fale Kaupule: 16 (65.5%)</p> <p>Landowner: 0 (13.8%)</p> <p>Others (Kaupule Funafuti + Fale Kaupule): 3(11.1%)</p> <p>N/A: 3 (0%)</p> <p>(Vaiaku)</p> <p>Crown/government :3 (33.3%)</p> <p>Kaupule Funafuti :5(55.6%)</p> <p>Fale Kaupule: 1(11.1%)</p> <p>Landowner: 0 (0%)</p> <p>Others: 0 (0%)</p> <p>N/A: 0 (0%)</p>	<p>Crown/government:1(4.5%)</p> <p>Kaupule Funafuti :9(40.9%)</p> <p>Fale Kaupule: 12 (54.5%)</p> <p>Landowner: 0 (0%)</p> <p>Others: 0 (0%)</p> <p>N/A: 0 (0%)</p>	<p>Crown/government: 0(0%)</p> <p>Kaupule Funafuti :6(20.7%)</p> <p>Fale Kaupule: 19 (65.5%)</p> <p>Landowner: 4 (13.8%)</p> <p>Others: 0 (0%)</p> <p>N/A: 0 (0%)</p>

<p>8. Who should be responsible for the monitoring and maintenance?</p>		<p>Crown/government: 0(0%) Kaupule Funafuti :7(24.1%) Fale Kaupule: 4 (13.8%) Landowner: 0 (0%) Others: 0 (0%) N/A: 1 (3.4%)</p>	<p><i>(Funafuti)</i> Crown/government:1(3.7%) Kaupule Funafuti :12(44.4%) Fale Kaupule: 9 (33.3%) Landowner: 0 (0%) Others (Kaupule Funafuti + Fale Kaupule (2), Crown/government + Kaupule Funafuti + Fale Kaupule (1) : 3(11.1%) N/A: 2 (7.4%) <i>(Vaiaku)</i> Crown/government :3 (33.3%) Kaupule Funafuti :5(55.6%) Fale Kaupule: 1(11.1%) Landowner: 0 (0%) Others: 0 (0%) N/A: 0 (0%)</p>	<p>Crown/government:1(4.5%) Kaupule Funafuti :7(31.8%) Fale Kaupule: 12 (54.5%) Landowner: 0 (0%) Others (Kaupule Funafuti + Fale Kaupule (1), Crown/government + Kaupule Funafuti(1) : 2(9.1%) Others: 0 (0%) N/A: 6 (20.7%)</p>	<p>Crown/government: 0(0%) Kaupule Funafuti :6(20.7%) Fale Kaupule: 14 (48.3%) Landowner: 3 (10.3%) Others: 0 (0%) N/A: 6 (20.7%)</p>
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<p>9. Do you agree to acquire gravels from the runaway and Islets?</p>	<p>YES: 21 (72.4%) NO: 3 (10.3%) Not sure: 4 (13.8%)</p>	<p>YES: 11 (91.7%) NO: 0 (0%) Not sure: 1 (8.3%)</p>	<p>(Funafuti/Vaiaku) YES: 29 (80.6%) NO: 3 (8.3%) Not sure: 4 (11.1%)</p>		<p>YES: 4 (25.0%) NO: 7 (43.8%) Not sure: 5 (31.3%)</p>
<p>- 2. Comments and suggestions (qualitative description)</p>					
<p>1. For basic design of beach nourishment</p>	<ul style="list-style-type: none"> - I agree with the design shown by J-PACE, which is beach nourishment, and that's the only option that is suitable for our island(2) - It's better to start from the ocean side. - <u>Make a by-law for the protection and the good of the implementation.</u> - <u>It would be good if we test this project at the ocean side or the island to stop the big waves.</u> 	<ul style="list-style-type: none"> - I think the design is good(1) - I am happy for what you are going to do. - Nice and useful for our young generation. 	<p>(Funafuti)</p> <ul style="list-style-type: none"> - It is OK if the gravels are not removed. - I am happy for this help for our beach. - <u>What a nice and important this design, because that is the most important is to protect our beach.</u> - <u>In my view it is a nice and good designing that there is no impact from it.</u> - I agree with the design. - <u>The design is a very nice, and also I am happy with that because I have seen it's important and useful.</u> <p>(Vaiaku)</p> <ul style="list-style-type: none"> - The design is good. - I agree with the design(2). - <u>I am very pleased for the</u> 	<ul style="list-style-type: none"> - The design is very nice, and I agreed(6) - <u>It's better if the project increase the size of this new land(4).</u> - Go ahead with the help on the beach because of sea level rise. - Just afraid my people to destroy this new land after construction. - It can be more helpful on the seashores. - <u>Up to you on whatever and how you're going to make.</u> - <u>For the houses near the shore, this project will help them on filling their shores and not by themselves.</u> - No comment because I know that this design is from the most intelligent people who are going to help on the Funafuti community. 	<ul style="list-style-type: none"> - <u>I hope there is a feedback from that in the future.</u> - I agree with this new design, <u>but one problem is that there is an impact to our boats.</u> - <u>There is an impact on fishermen, unless there is a good plan and decision for this kind of thing for our boats to and off shore, mainly in times of bad weather.</u> - <u>There is no good and safe place our boats.</u>

			<p><u>good and nice view of the new beach.</u></p> <ul style="list-style-type: none"> - <u>There should be a by-law to protect the land.</u> 		
<p>2. Any comments or suggestions for solutions on ramps for fishermen (fishermen only)</p>	<ul style="list-style-type: none"> - I really need the ramp as a fisherman(2). - Ramps shouldn't be constructed on the beach nourishment, there should a place for ramps, that the beach nourishment will no reach it or somewhere far. - Need a mariner or a boat harbor (1). - It will be better to make ramps for fishermen (3) - <u>If there is any impact of this project to us, it is better to cancel it.</u> - <u>I need a ramp to help to get coconuts from the boat to shore.</u> - <u>Should make ramps for all those who have boats and canoes.</u> 	<ul style="list-style-type: none"> - Do what is good and don't have any impact to the project. - <u>It is good to have 3 ramps.</u> - I suggest making some rams for all the people. - It is good if there are no ramps. 	<p>(Funafuti)</p> <ul style="list-style-type: none"> - Construct it as you have planned like the picture you have shown. 	<ul style="list-style-type: none"> - To leave this matter to whatever Fishermen think. - It is good for J-PACE to make their own decisions. 	<ul style="list-style-type: none"> - <u>It's good to make ramps to help us fishermen(2).</u> - <u>Ramps need for getting our boats from the gravels that they are going to put on the beach.</u> - Need more research. And investigation. - <u>Make a simple way/ whatever is suitable for fishermen.</u> - Make a better decision (2). - <u>Ramps is very helpful to bring up and down the boat.</u> - <u>Without ramps, it is very hard for us fishermen in times of bad weather.</u> - <u>It is better to make ramps for our boats.</u>
<p>3. For J-PACE</p>	<ul style="list-style-type: none"> - I want J-PACE to do best job which is be very good in the need of my people. - The presentation is good and clear. - Congratulation to 	<ul style="list-style-type: none"> - Thank you for your help and try your very best. 	<p>(Funafuti)</p> <ul style="list-style-type: none"> - Thank you very much for that great project and it is very useful for the community of Funafuti. - Thank you very much 	<ul style="list-style-type: none"> - I with that this project will complete and doing well. - Hope the work will success. - To keep helping us, for the living of our people. 	<ul style="list-style-type: none"> - <u>Need to go back and discuss about the views, and then come back with new ideas.</u> - To implement the project very soon. - Implement the project

	<p>J-PACE for the great job. They have done on searching all the places on Funafuti that are affected from erosion, and how to protect it, such a great job.</p> <ul style="list-style-type: none"> - Thanks for the big and great job that you are going to do. - <u>To have more time on working together with the FaleKaupule.</u> - I am very happy with J-PACE work. - Please try your best to finish this job up to implement as soon as possible. - I want to make sure that the team is working hard on this project. - J-PACE to investigate carefully before construction. - Project should be implemented on not Fongafale but other Islets. - Work together with the FaleKaupule in need of helping to make some bridges from the main land to all the islets for the better or transportation. 		<p>for that helpful project.</p> <ul style="list-style-type: none"> - It is good that you are going to do something about the eroded – very useful. - Good for everything. - Just thanks for the help from the government of Japan and your kindly to help us on our beach. - I am happy to say thanks for that great help from the J-PACE. - J-PACE is a group team that is very important for the generation of the country/island. - To keep on what help you can do for the community in everything situation according to this project. (Vaiaku) - I want to acknowledge my thanks to the team for their help for all the people of Tuvalu, for their plan for our living in the coming days. - <u>Please can you be more hurry/quick on doing the implementation.</u> - <u>It is a very interesting workshop. On my opinion, it's better to</u> 	<ul style="list-style-type: none"> - <u>Keep on maintaining in every year.</u> - <u>Make the project move on.</u> - Try to make the project soon to success. - It's good to try to complete this project soon and whatever pain they have for it. - 	<p>(2)</p> <ul style="list-style-type: none"> - <u>It's a nice project but we don't know what impact afterwards.</u> - Need a big support and help from you. - To make sure you will be done the job quite good.
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			<p><u>share our this new project with other islands of Tuvalu.</u></p> <ul style="list-style-type: none"> - <u>Look and think wisely for this project to make sure we will not affect from it.</u> - Just say thanks for this implementation for the protecting of our land/islands, and to complete with a good luck/satisfaction. - Because of their brightness and well managed, this project to me is very useful, and very helpful to our people and mainly the protection of our seashores. 		
4 For the whole session	<ul style="list-style-type: none"> - I just want to say thanks and with all my heart to the government of Japan, especially the J-PACE that is trying to do this project for my island/community and tha7S for the better of my future generation. - <u>I could fully understand the Project and what is aiming for (3).</u> - <u>Should include all the people of the country in the Workshop</u> 	<ul style="list-style-type: none"> - We can make food for the people to eat after the work.<u>(women?)</u> 	<ul style="list-style-type: none"> - All good. - Good and interesting. I now understand. - It is very useful that we understand now about these session we have covered (3) - Everything seems to be very good, and I hope the project will success. - <u>This gathering was very important to me.</u> - <u>Whole session was very important and useful for the project.</u> 	<ul style="list-style-type: none"> - <u>It is better to get more different opinions/views for better our country/island in the future(2).</u> - <u>It's good to hear all the opinions from all of us for the better of our island.</u> - It's good that we have the understanding. <u>I am willing to help on the work.(2)</u> 	<ul style="list-style-type: none"> - Very interesting and useful (5). - <u>It's a good discussion and lots of views/comments. That has been put forward for this project.</u> - <u>We must participate in helping on protection of the shore.</u>

	<ul style="list-style-type: none"> - Our gathering is very important. - <u>It's a nice workshop and very useful to me.</u> - <u>I believe that this gathering will make a true/accurate decision.</u> - <u>Happy to be able to meet every time to discuss for the better of the implementation.</u> - I really appreciate it, thank you very much. - Keep on doing things together (project) in terms of protecting our land in any impacts of the shores and also on the islets. 		<ul style="list-style-type: none"> - <u>It was good gathering(2)</u> - <u>Women is strong because they can support their people.</u> - <u>The gathering of women is the arm of the family which they can support the community.</u> - <u>I suggest that this workshop should go only to the FaleKaupule and the Kaupule.</u> (Vaiaku) - <u>It's good and profitable or useful for the better of the coming generation of Tuvalu.</u> - Thank you very much for your help. - I want to give thanks because I now have the <u>knowledge of the main purpose of this project and not only that the protection of our seashore.</u> - I would like to apology on behalf of the Vauaku women for not being together of our women this evening because of the bad weather. And confusing of the announcement which says the meeting is held 	<ul style="list-style-type: none"> - <u>Always have to gather like this and to keep the work ongoing for the project.</u> - <u>Consider careful to bring gravels from the islets.</u> - <u>It is a good to gather like this, so that we can all have one understanding on this project.</u> 	
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			<p>in Tausoalima, but then it was here.</p> <ul style="list-style-type: none">- <u>It would be very good thing for us to understand how to take care and look after to our new beach.</u>		
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PART VI: EXAMINATION AND DESIGN OF COASTAL PROTECTION MEASURES

Section 1: Supporting Report

1. Evaluation of Inflow from Ocean as a Result of Causeway Excavation

1. Evaluation of Inflow from Ocean as a Result of Causeway Excavation

The flow into the lagoon from the ocean side was calculated to evaluate how much sand originating from foraminifer produced on the ocean side would be transported into the lagoon if the causeway is excavated.

It is supposed that the net amount of sand to remain inside the lagoon due to tidal currents would be negligible because it flows in both directions. Therefore, the overtopping rate, that is waves flowing into the lagoon from the ocean, was evaluated. Waves originating on the ocean side are high in the dry season and are lower in the rainy season. The lagoon is calm except during the rainy season. Therefore, during the dry season, sand is transported into the lagoon by waves originating in the ocean and deposited near the causeway. Then, during the rainy season this sand is transported southward by longshore drift as a result of waves generated within the lagoon (Figure 1.1).

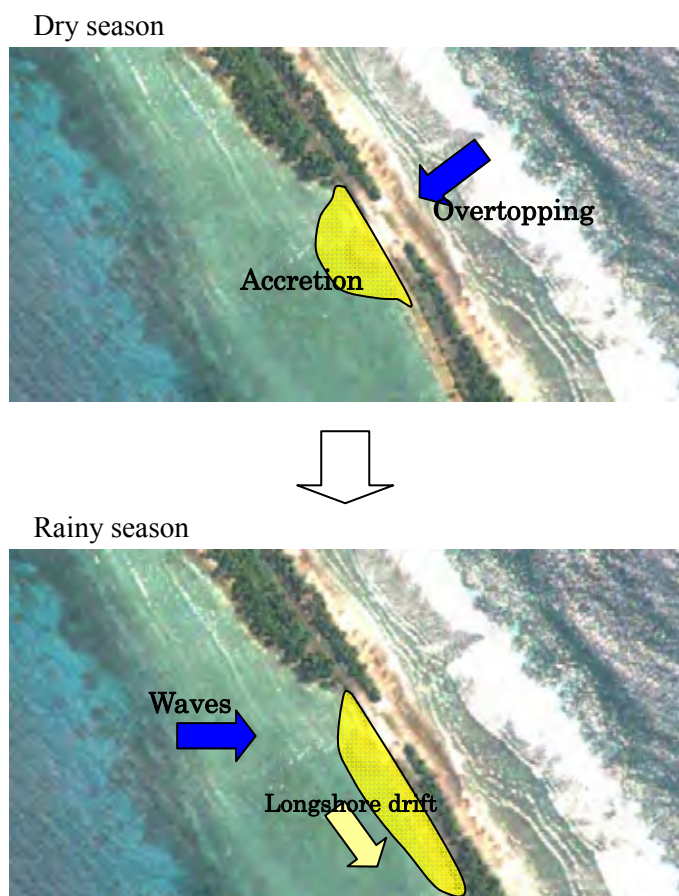


Figure 1.1 Evaluation of inflow from ocean as a result of causeway excavation

1.1 External Force

In order to evaluate the annual average inflow, the overflow from waves was calculated under three tidal levels—HWL, MWL, and LWL—using an annual "mean energy" wave as an

external force condition.

The mean energy waves used were monthly values provided by the Japan Science and Technology Agency (JST), as shown in Table 1.1. The monthly mean energy wave values are the averages of reanalysed ECMWF (European Centre for Medium-range Weather Forecasting) values of four points near Funafuti. The mean wave direction (MWD) values for each month were calculated by averaging both the mean square (mean energy value) of the significant wave height (SWH) values, and the mean wave direction values found by vector analysis with weight on SWH. The wave period was also averaged with weight on the significant wave height.

The base data is as follows.

Source: ECMWF
 Timeframe: From 00:00:00 UTC 1 September 1957 to 18:00:00 31 October 2009
 Sampling period: 6 hours
 Base data: Significant wave height; mean wave direction; mean wave period

Table 1.1 Monthly mean energy waves

Lat -8.470	4999924			
Lon 179.19	7043457			
Month	SWH(m)	MWD(deg)	MWP(s)	MWL(m)
1	1.9	35.7	7.6	64.5
2	1.9	39.5	7.6	69.4
3	1.9	50.2	7.6	74.1
4	1.9	71.6	7.4	70.7
5	1.7	91.7	7.3	67.0
6	1.6	99.4	7.1	61.3
7	1.6	103.1	7.1	60.1
8	1.4	107.9	7.2	61.2
9	1.4	106.2	7.3	63.8
10	1.6	81.3	7.4	69.5
11	1.8	54.2	7.6	75.5
12	1.9	43.6	7.6	68.1

SWH: significant wave height; MWH: mean wave direction; MWP: mean wave period; MWL: mean wave length

Source: JST

1.2 Calculation Method

CADMAS-SURF was used for the calculations. CADMAS-SURF was developed—as an alternative to flume testing—for advanced verification of the performance of ocean structures. It is able to handle the effect of free surfaces (able to handle shapes such as overhanging waves) and breaking waves, wave runup, and deformation by strongly nonlinear terrain such as reefs. It uses the Porous Model to represent terrain and structures; therefore, it is able to represent terrain in minute detail and has a high approximate accuracy of shapes. Further, as it can find flow speed and wave pressure (vertical), it can calculate the overtopping rate and evaluate the stability of structures. It is limited, however, in its practical calculation ability to analyse

two-dimensional cross-sections.

(1) Theory

It employs two methods of calculating numerical wave channels—volume of fluid (VOF), and simplified marker and cell (SMAC)—and by using a preconditioned BCGSTAB method as a solution to simultaneous linear equations, it thereby enables rapid and reliable calculation. It has the following characteristics:

- can analyse complex flows whereby the free surface has a multivalent function,
- basic equations are the Navier-Stokes (Reynolds) and continuity equations for two-dimensional incompressible fluids,
- volume of fluid (VOF) method is adopted for free-surface analysis models,
- porous method is employed to increase shape approximation accuracy,
- structural and boundary conditions can be set to arbitrary positions on a per-cell basis,
- adopts both wave boundary and wave source as wave models,
- adopts six types of wave function (for the calculation of wave velocity and water level) such as Stokes wave,
- two types of non-reflective models are adopted, Sommerfeld's radiation boundary and energy attenuation coefficient, and
- TimeDoor is used to process bubbles and droplets.

(2) Basic equations

Basic equations of numerical wave channels are taken from the continuity equation for two-dimensional incompressible viscous fluids and an extension of the Navier-Stokes equation based on the porous model (1.1) to (1.3).

Equation of continuity:

$$\frac{\partial \gamma_x u}{\partial x} + \frac{\partial \gamma_z w}{\partial z} = S_\rho \tag{1.1}$$

Equation of motion:

$$\lambda_v \frac{\partial u}{\partial t} + \frac{\partial \lambda_x uu}{\partial x} + \frac{\partial \lambda_z wu}{\partial z} = -\frac{\gamma_v}{\rho} \frac{\partial p}{\partial x} + \frac{\partial}{\partial x} \left\{ \gamma_x \nu_e \left(2 \frac{\partial u}{\partial x} \right) \right\} + \frac{\partial}{\partial z} \left\{ \gamma_z \nu_e \left(\frac{\partial u}{\partial z} + \frac{\partial w}{\partial x} \right) \right\} - D_x u + S_u - R_x \tag{1.2}$$

$$\lambda_v \frac{\partial w}{\partial t} + \frac{\partial \lambda_x uw}{\partial x} + \frac{\partial \lambda_z ww}{\partial z} = -\frac{\gamma_v}{\rho} \frac{\partial p}{\partial z} + \frac{\partial}{\partial x} \left\{ \gamma_x \nu_e \left(\frac{\partial w}{\partial x} + \frac{\partial u}{\partial z} \right) \right\} + \frac{\partial}{\partial z} \left\{ \gamma_z \nu_e \left(2 \frac{\partial w}{\partial z} \right) \right\} - D_z w + S_w - R_z - \gamma_v g \tag{1.3}$$

The definitions of the coordinate system and symbols for the main physical values are given in Figure 1.2; where: t =time; x, z =horizontal, vertical coordinates; u, w =horizontal, vertical components of flow velocity; ρ =density; p =pressure;

ν_e =balance between molecular kinematic velocity and kinematic eddy velocity;

g =gravitational acceleration;

γ_v =porosity; γ_x, γ_z =vertical, horizontal area permeability;

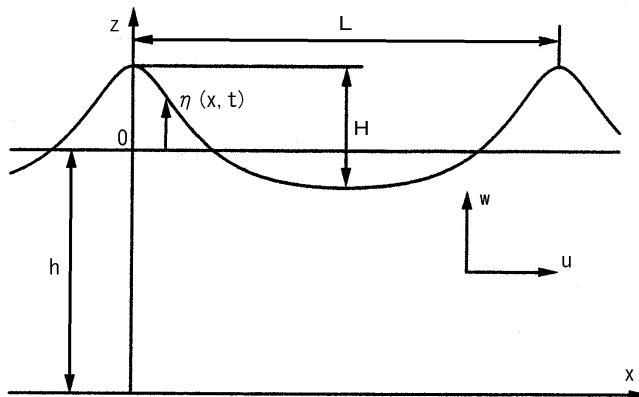


Figure 1.2 Definition of coordinate system and physical values

1.3 Topographic data

The following cross-sectional topography (Figure 1.4) of the causeway was made from the topographic map (Figure 1.3).

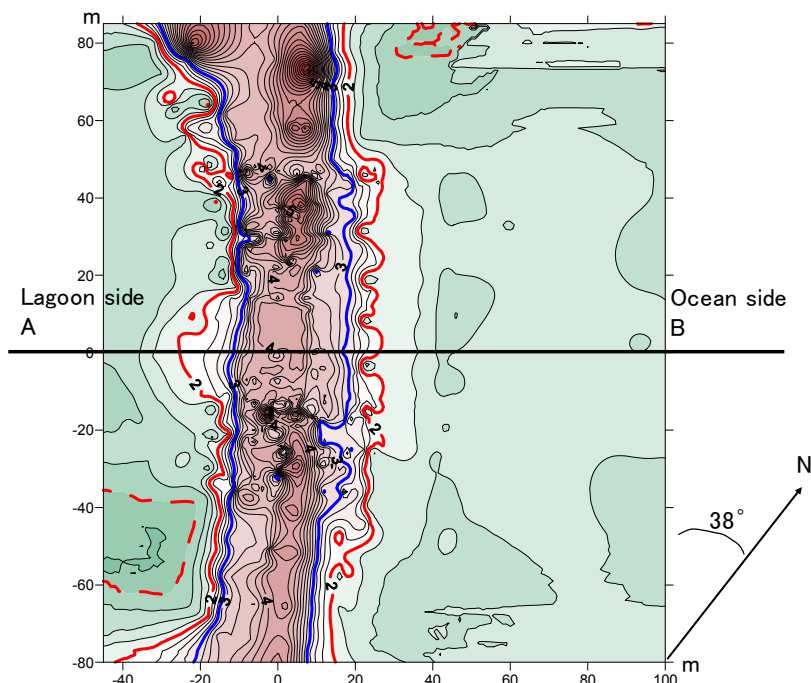


Figure 1.3 Topography of the causeway and its surrounds

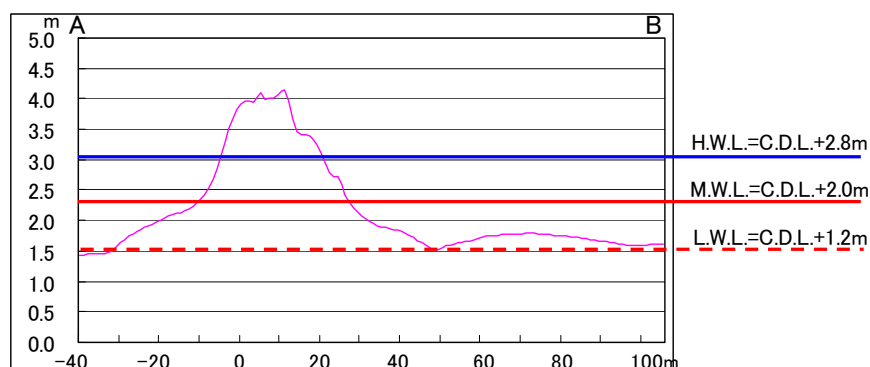


Figure 1.4 Cross-section of the causeway

Further, the channel cross-section used in the equations is shown in Figure 1.5. The slope gradient until 200 m out from the reef edge is 1/4; waves in water depths greater than this are not affected by water depth, therefore, water depth is kept constant from this point.

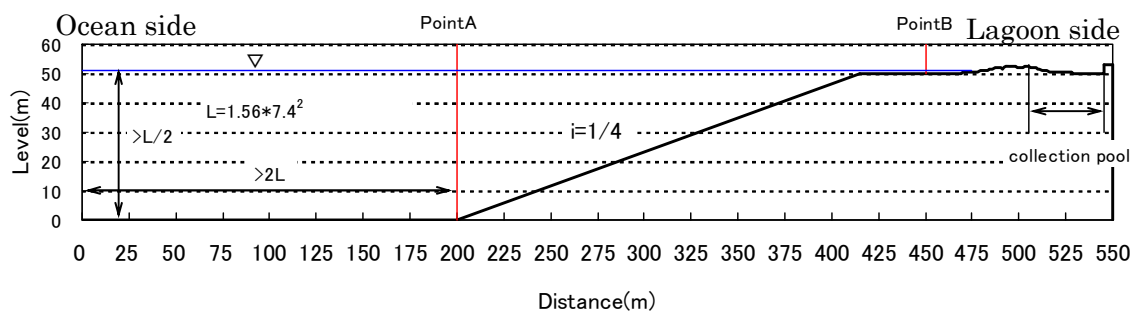


Figure 1.5 Channel cross-section

1.4 Calculation results

(1) Current situation

The high water level (HWL) time series of the current topography at monitoring points A and B is shown in Figure 1.6. Figure 1.7 is the overtopping rate, however, under these conditions overtopping is non-existent.

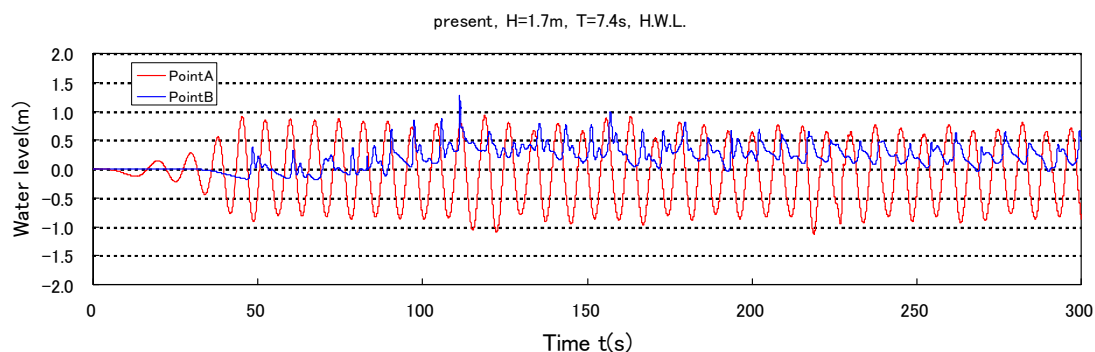


Figure 1.6 Water level time series

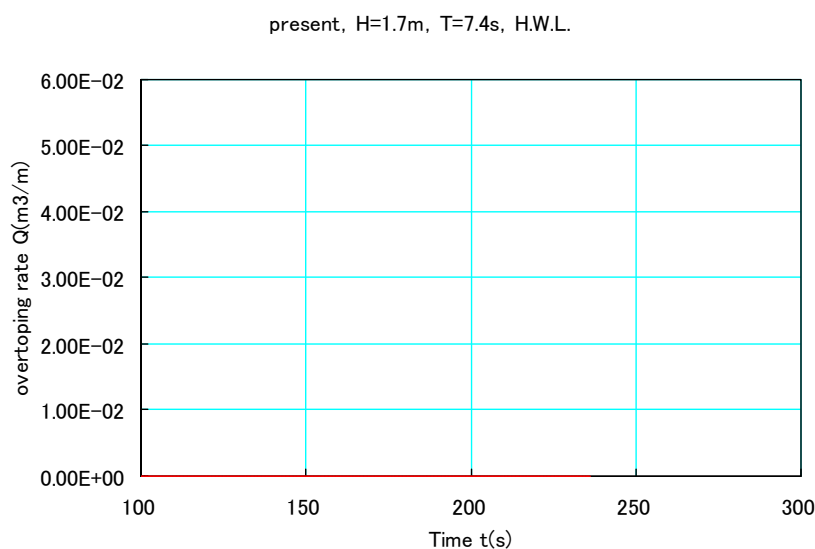


Figure 1.7 Overtopping rate

(2) After causeway removal

With the aim of making the topography of both ends of the causeway naturally stable in future, the CDL +4 m, 3 m, and 2 m contours—the red lines in Figure 1.8 below—were adjusted to conform to the curvature of the +4.0 contour. Herein, the overtopping rate—whereby the excavation is undertaken so that the CDL +2 m at MWL remains within its current bounds—will be evaluated. Consequently, the excavation width will be 20 m, as represented by the dark grey section in Figure 1.8.

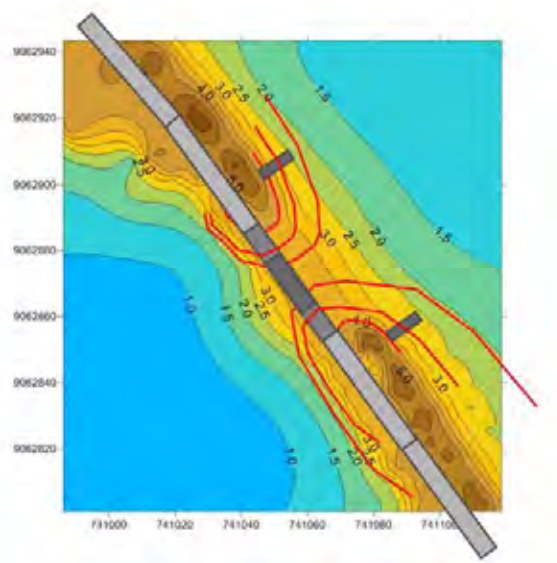


Figure1.8 Investigation of causeway excavation

The outcome of these calculations is shown in the changes to the water level time series, Figure 1.9, and overtopping rate, Figure 1.10. Comparison of HWL and MWL in Figure 1.10 reveals that the overtopping rate is higher when the water level is lower, at MWL. This is considered to be because the back-and-forth motion of the waves turns into a traveling wave when the water depth is shallower.

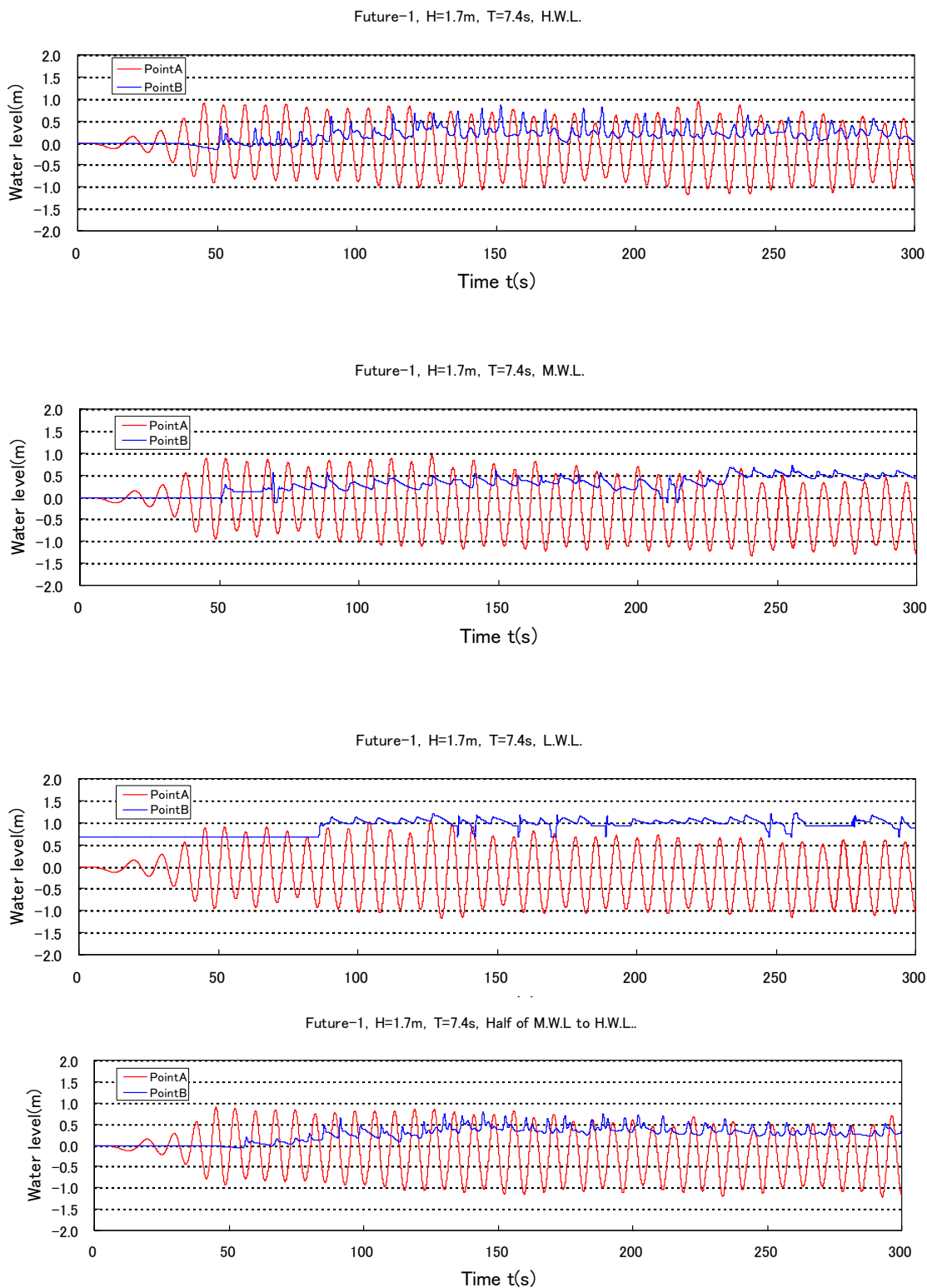


Figure 1.9 Changes to water level time series after excavation

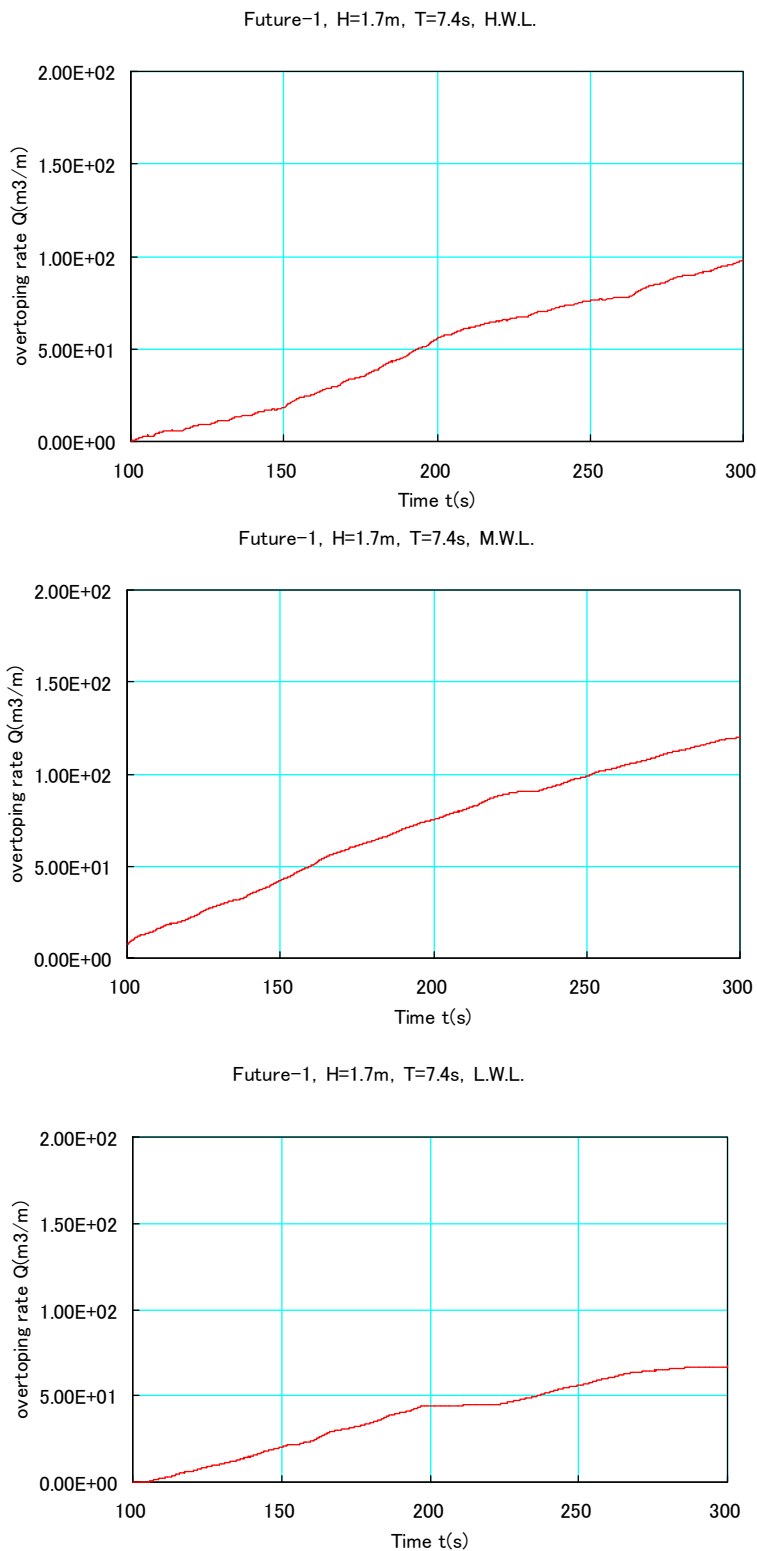


Figure 1.10 Overtopping rate at various water levels after excavation

1.5 Evaluation of ocean water inflow

The overtopping rates at various tidal levels are given in Table 1.2 and Figure 1.12. Daily tidal levels vary from spring to neap tides, therefore, the mean overtopping rate was calculated for a half tide, that is midway between the spring and neap tides (shaded area of Figure 1.12), to calculate the annual overtopping rate.

If:

- Overtopping rate = $Q \approx 0.37 \text{ m}^3/\text{m/s}$
- Overtopping rate when 20 m is excavated = $Q \approx 7.4 \text{ m}^3/\text{s}$
- Annual overtopping rate = $Q \approx 233 \times 10^6 \text{ m}^3$
- Area of Funafuti Atoll = $S \approx 187.5 \text{ km}^2$
- Mean water depth = $d \approx 20 \text{ m}$

Then, the ratio between the annual inflow rate and the volume of Funafuti Atoll (ocean water exchange rate) will be approximately 6.2%.

Further, if the concentration of sand in the ocean water is 100 ppm, then the annual supply of sand to the lagoon side can be estimated as approximately 23,000 m^3 .

Table 1.2 Overtopping rate at various tidal levels

	Tidal level (m)	Overtopping rate(m ³ /m/s)
H.W.L	2.8	0.327
M.W.L	2.0	0.400
L.W.L	1.2	0.224

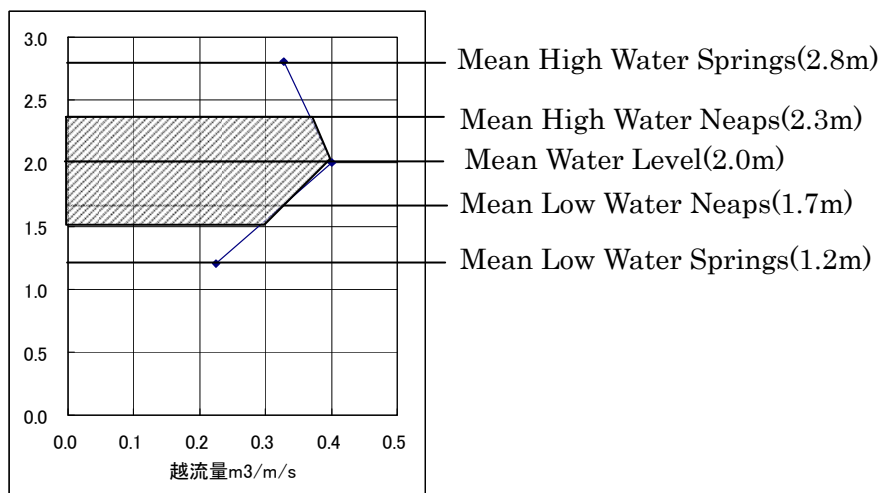


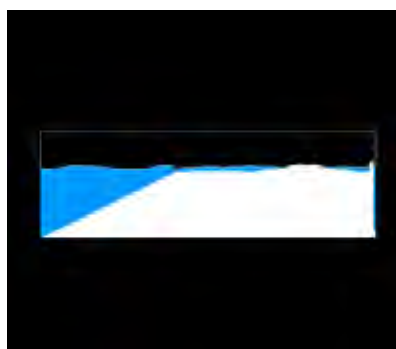
Figure 1.12 Overtopping rate at various tidal levels

Reference material: Overtopping situation

(1) Current topography (HWL)



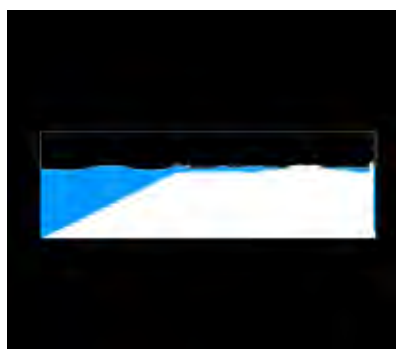
t=0s



t=1s

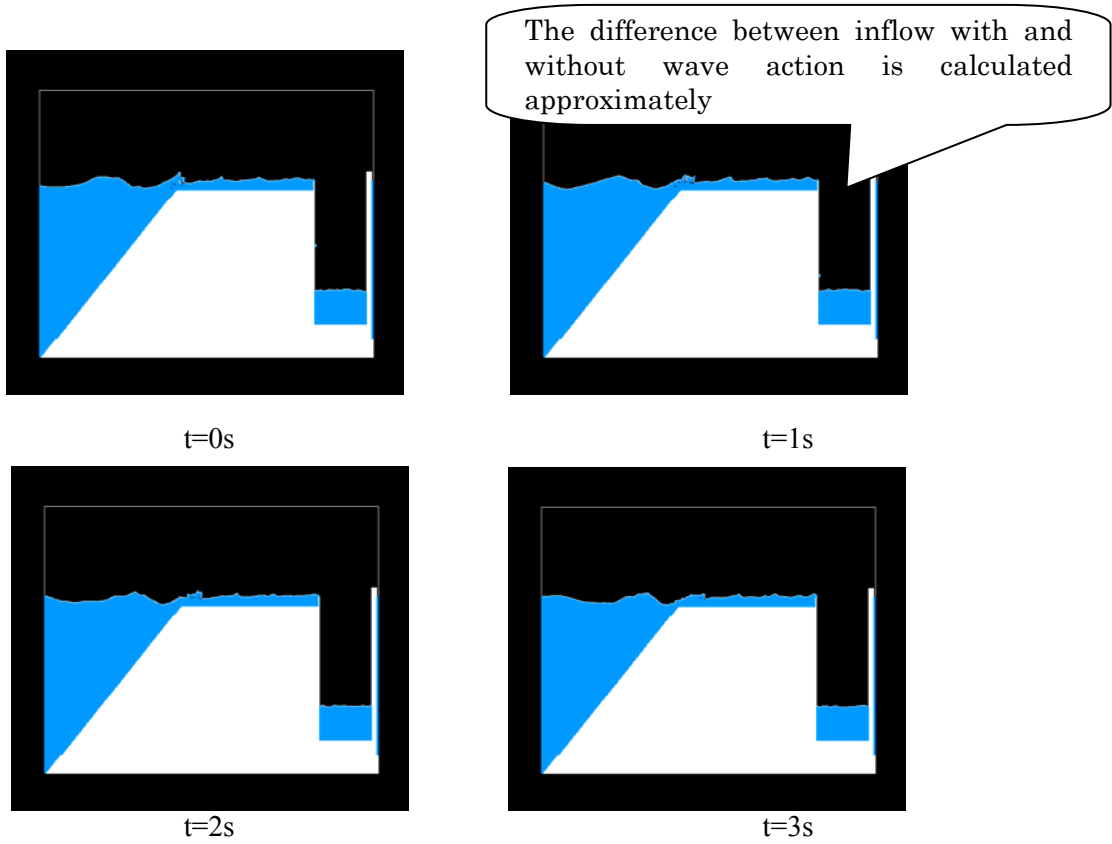


t=2s

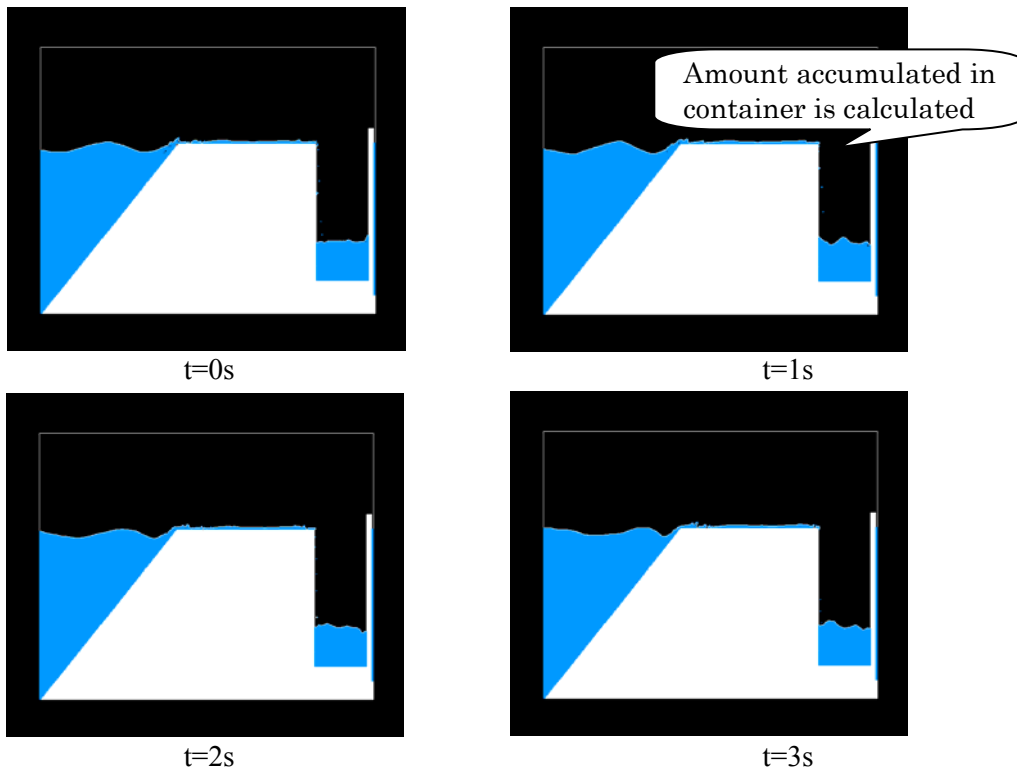


t=3s

(2) After excavation (HWL)



(3) After excavation (MWL)



(4) After excavation (LWL)

