Method to set baseline

1. If relative quantitative data in past available, then set baseline based on them: *mainly applied to climate hazards and vulnerability*

2. If not available, then estimate possible quantities/ damage up to present. Estimation was made mainly from the interview survey on past disaster to island councils and communities, and site investigation: *mainly applied to socio- and economic- vulnerability.*

Table 1 Baseline for Each Indicator at Target Five Islands

Evaluation category	Evaluation items (for the period or annually)	Means of Verification (MoV)	Baseline and target	Target Island					Description
				Addu Atoll	Laamu Atoll				
				Meedhoo	Gan	Fonadhoo	Isdhoo	Maamendhoo	
Observed climate hazards and vulnerability of ecosystems	1 S.L.R (cm)	Tide monitoring data in Gan, Laamu Atoll (Government data)	Baseline (2019)	16.1	16.1	16.1	16.1	16.1	S.L.R. from 1969 (more than 50 years) estimated based on observed tide data in Gan, Laamu Atoll.
			Midterm (2023)	17.7	17.7	17.7	17.7	17.7	
			Final (2028)	19.3	19.3	19.3	19.3	19.3	
	2 Increase of offshore wave height ($H_{1/3}$, cm)	Reanalysis wave data (ERA5) (Other (website))	Baseline (2019)	24	24	24	24	24	Increase from 1979 (more than 40 years) estimated based on reanalysis data near Addu Atoll
			Midterm (2023)	26	26	26	26	26	
			Final (2028)	29	29	29	29	29	
	3 Average frequency of flooding due to swell wave(times/year)	Annual records on loss/ damage due to coastal disaster prepared by Atoll or Island councils. (Government data)	Baseline (2019)	1<	1<	1<	1<	2<	Baseline: based on interview survey to local government and communities in 2019. At residential area: Fonadhoo and Maamendhoo At coastal road or heritage site: Meedhoo, Gan, Ishdhoo
			Midterm (2023)	1<	1<	1<	1<	2<	
			Final (2028)	0	0	0	0	0	
	4 Observed	Annual records	Baseline	D <30	D <30	D <30	D <30	D <30	Based on interview survey to

	Indicator	Verification	Period	Site 1	Site 2	Site 3	Site 4	Site 5	Remarks
	maximum flooding depth(D,cm) and distance toward inland (I,m)	on loss/ damage due to coastal disaster prepared by Atoll or Island councils. (Government data)	(2019)	I <150	I <150	I <150	I <150	I <150	local government and communities in 2019.
			Midterm (2023)	D <30 I <150	D <30 I <150	D <30 I <150	D <30 I <150	D <30 I <150	
			Final (2028)	0	0	0	0	0	
	Coral coverage on reef	Monitoring report to be prepared by Contractor (Document review)	Baseline (2019)	Level 2	Level 1	Level 1	Level 1	Level 2	Coverage level from line-transect survey and reports on coral bleaching event in Maldives: 1: 0-9% (very severe), 2: 10-24% (severe), 3: 35-49% (moderate), 4. 50-74% (well), and 5: 75-100% (very well)
			Midterm (2023)	Level 2	Level 1	Level 1	Level 1	Level 2	
			Final (2028)	Level 2	Level 1	Level 1	Level 1	Level 2	
	5 Turbidity of sea water on reef	Monitoring report to be prepared by Contractor (Document review)	Baseline (2019)	<3	<3	<3	<3	<3	Water quality survey results in 2019 Optimum conditions of turbidity for coral growth is <3-5 NTU, and >5NTU causes stress for the coral growth, based on the EIA Data Collection Guideline, EPA, Maldives.
			Midterm (2023)	<3	<3	<3	<3	<3	
			Final (2028)	<3	<3	<3	<3	<3	
	6 Retreat (m)	Monitoring report to be prepared by Consultant (Document review)	Baseline (2019)	0-10	—	5-10	—	10-15	Baseline: shoreline change observed from satellite images and Google Earth. Final: No retreat from the baseline expected after intervention implemented.
			Midterm (2023)	0-10	—	5-10	—	10-15	
			Final (2028)	0	—	0	—	0	
	Remaining width of beach (m)	Monitoring report to be prepared by	Baseline (2019)	5-10	0	5-15	0	0-10	Baseline: observed from site investigation Final: beach width after beach
			Midterm	5-10	0	5-15	0	0-10	

		Consultant (Document review)	(2023)						nourishment above mean sea level (M.S.L)
			Final (2028)	29	0	31	0	27	
	Erosion area (m2)	Monitoring report to be prepared by Consultant (Document review)	Baseline (2019)	7,000	—	6,400	—	11,300	Baseline, midterm: shoreline distance(m) x observed retreat(m) Final: No erosion from baseline expected
			Midterm (2023)	7,000	—	6,400	—	11,300	
			Final (2028)	0	—	0	—	0	
Observed impact of climate change on socio-economic development (socio-economic vulnerability)	Live loses (lives per flood)	Annual records on loss/ damage due to coastal disaster prepared by Atoll or Island councils. (Government data)	Baseline (2019)	0	0	0	0	0	No live losses reported in the past
			Midterm (2023)	0	0	0	0	0	
			Final (2028)	0	0	0	0	0	
	Number of people who don't have access to evacuation (per flood)	Site investigation on evacuation area (Field observation visits)	Baseline (2019)	—	—	—	—	896	Baseline: interview survey to island council on past flooding event Final: Evacuation site secured by implementation
			Midterm (2023)	—	—	—	—	896	
			Final (2028)	—	—	—	—	0	
	7 Loss of national land (USD)	Monitoring report to be prepared by Consultant (Document review)	Baseline (2019)	35,000	—	32,000	—	56,500	Baseline: observed erosion area(m2) x unit value Final: No erosion from baseline expected
			Midterm (2023)	35,000	—	32,000	—	56,500	
			Final (2028)	0	—	0	—	0	
	8 Number of properties/ facilities exposed to damage (per flood)	Annual records on loss/ damage due to coastal disaster	Baseline (2019)	1.4 km of coastal road and parks	1 heritage site	199 houses	1 heritage site	261 houses	Baseline: interview survey to island councils on regional characteristics and past flooding event

			1.4 km of coastal road and parks	1 heritage site	199 houses	1 heritage site	261 houses	
	prepared by Atoll or Island councils. (Government data)	Midterm (2023)	1.4 km of coastal road and parks	1 heritage site	199 houses	1 heritage site	261 houses	Final: Flooding will be prevented by intervention
		Final (2028)	0	0	0	0	0	
9 Damage on properties(houses) due to flooding (USD/year)	Annual records on loss/ damage due to coastal disaster prepared by Atoll or Island councils. (Government data)	Baseline (2019)	—	—	555,000	—	564,000	Baseline: since no detailed records available, estimated as possible damage up to present based on interview survey to island councils on past flooding event. Damage on heritage and coastal road was not evaluated due to difficulties in evaluation Final: Flooding will be prevented by intervention
		Midterm (2023)	—	—	555,000	—	564,000	
		Final (2028)	—	—	0	—	0	
10 Income loss at island due to flooding (USD/year)	(same as above) (Government data)	Baseline (2019)	—	—	235,000	—	255,000	(same as above)
		Midterm (2023)	—	—	235,000	—	255,000	
		Final (2028)	—	—	0	—	0	
11 Tourism income loses per flood (USD)	(same as above) (Government data)	Baseline (2019)	5,000	64,000	49,000	—	—	Baseline: since no detailed records available, estimated as possible damage up to present based on interview survey to island councils on past flooding event. Final: Flooding will be prevented by intervention
		Midterm (2023)	5,000	64,000	49,000	—	—	
		Final (2028)	0	0	0	—	—	
12 Fishery production loses per flood (ton)	(same as above) (Government data)	Baseline (2019)	—	—	130	—	<100	(same as above)
		Midterm	—	—	130	—	<100	

		(2023)						
		Final (2028)	—	—	0	—	0	
	13 Agricultural production loses per flood (USD)	(same as above) (Government data)	Baseline (2019)	<100	—	950	—	<100	(same as above)
			Midterm (2023)	<100	—	950	—	<100	
			Final (2028)	0	—	0	—	0	