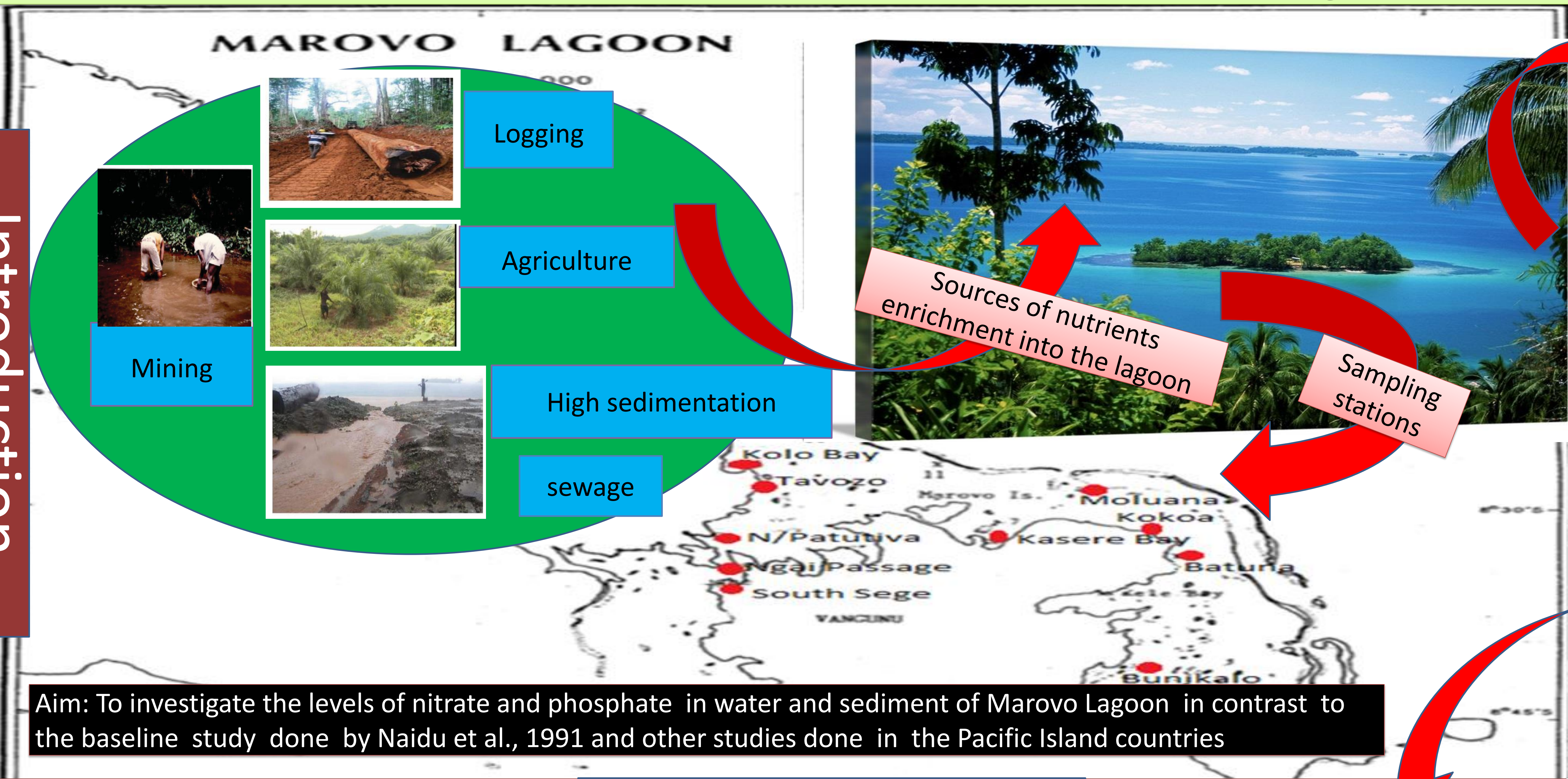
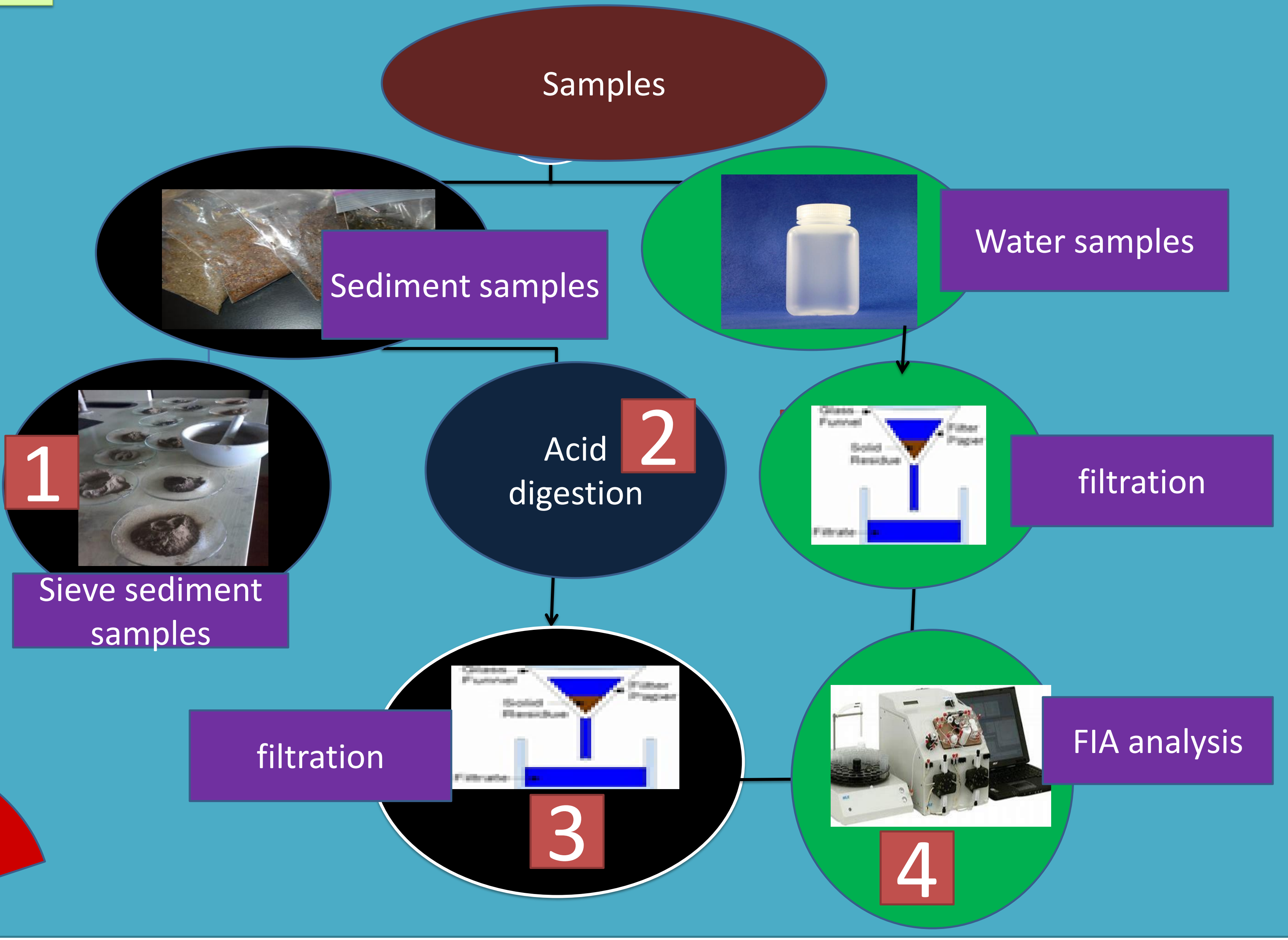


Nutrients levels in coastal water and sediments of Marovo Lagoon, Solomon Islands

Introduction



Methodology



Results

Levels of nutrients in Marovo water compared to the old study by Naidu et al., 1991										Levels of nutrients in Marovo sediments			
This study			Ratio	Naidu et al 1991		Physical & chemical parameters					Stations	Nitrate	Phosphate
											Tavozo	36.22	16.35
Sites	NO ₃	PO ₄	N:P	NO ₃	PO ₄	Temp	pH	DO	Sal	Turb	Batuna	96.30	112.88
Tavozo	10.1	4.85	2.08	NS	NS	25.1	6.61	7.53	38	330	Kasere	3.28	56.31
Batuna	35.5	52.9	0.671	nd	nd	25.2	6.64	7.64	35	320	North Patutiva	12.41	121.64
Kasere	0.252	21.1	0.119	nd	nd	25.5	6.56	7.82	33	340	Kokoa	18.46	65.12
N/Patutiva	4.86	50.1	0.097	nd	15	26.2	6.58	5.72	32	350	Ngai Passage	110.56	223.46
Kokoa	6.71	33.8	0.199	NS	NS	25.3	6.32	6.44	34	310	Kolo Bay	20.22	81.21
Ngai Passage	3.67	136	0.027	nd	90	26.5	7.82	7.85	30	334	South Sege	105.34	242.18
Kolo Bay	6.97	38.1	0.183	nd	nd	25.4	7.94	5.81	34	350	Bunikalo	1.12	1.36
South Sege	30.9	122	0.253	nd	15	26.6	6.74	6.56	36	160	Mean	44.878	102.278
Bunikalo	0.211	1.23	0.000206	NS		25.4	8.1	7.12	35	110			

Conclusion

- The mean levels of nitrate and phosphate in water increase than the concentration obtained in the baseline study by Naidu et al., in 1991. When compared to other Pacific studies, this results also serious than the other pacific neighboring countries but are comparable to few.
- The further information provided by the nutrient in sediments also reaffirmed the contamination of nutrients in the water of Marovo Lagoon and is proved suitable indicator for monitoring of the nutrient enrichment in Marovo Lagoon.
- Both correlation and PCA analysis for nutrient in sediments confirmed the contamination originated from the agricultural activities, wastes from urban centers and human settlements around the lagoon and high sedimentation rate of the logged damaged soil around the lagoon
- The economic importance of the lagoon needs to be considered by the local people and the government as the present data reaffirms this claim of Marovo Lagoon highly polluted nature with nutrients