LOGICAL FRAMEWORK MATRIX PROJECT TITLE:				
I. Overall Objectives (OO)		**Objective Verifiable Indicators (OVI)**	**Source of Information (SOV)**	**Assumptions**
Overall Objective **The main objective of this cooperation is to strengthen Peru through IMARPE and collaborating institutes to use marine management tools and put them to use to understand chemical, biological and physical processes in marine ecosystems in order to better manage biodiversity and related climate change issues (adaptation, mitigation).**				
II. Specific Objective (SO)		**Objective Verifiable Indicators (OVI) and Targets (please make use of list of Key Result Areas)**	**Source of Information (SOV)**	**Assumptions**
Specific Academic Objective **The knowledge and scientific capacity on using numerical models at San Marcos University have been enhanced to maximize benefits for IMARPE, IMARPE has a pool of skilled people to recruit from**		**Scientific documents such as oral presentations or abstracts in conferences, articles in international peer reviewed journals, manuals or technical guides of use the model, ...**	**COHERENS Model, boundary conditions**	The Implementation of an operational model went well and the quality of the environmental input parameters was sufficient
Specific Developmental Objective **Development of a management plan for 4 marine ecosystems at risk**		**Maps of patterns of variability of marine currents, temperature, salinity, nutrients, phytoplankton and zooplankton**	**COHERENS Model, boundary conditions**	The Implementation of an operational model went well and the quality of the environmental input parameters was sufficient
III. Intermediate Results (IR)		**Objective Verifiable Indicators (OVI) and Targets (please make use of list of Key Result Areas)**	**Source of Information (SOV)**	**Assumptions**

IR 1	Skill in the set up of a circulation model		**several thesis**	**IMARPE/UNMSM, COHERENS**	Efficient training to simulate the hydrodynamics in coastal areas
IR 2	Skill in marine tools that assess marine ecosystem health		**Maps of distribution of phytoplankton and zooplankton under different simulation scenarios**	**IMARPE/UNMSM, plankton module**	Efficient training
IR 3	Skill in marine tools that assess sedimentation processes and dredging and dumping activitiesh		**Maps of sediment distribution under different simulation scenarios**	**IMARPE/UNMSM, sediment flow tool**	Efficient training
IR 4	Skill in pollution and eutrophication assessment		**Maps of distribution of nutrients/chemical substances under different simulation scenarios**	**IMARPE/UNMSM, particle tracking tool**	Efficient training
IR 5	Being able to assess the advantages and limitation of marine numerical tools		**end evaluation of the project**	**IMARPE/UNMSM**	Efficient integration skills, efficient training
IR 6	Cooperation with MINAM, IMARPE and UNMSM will be strengthened		**inclusion of the results of the management plan in the research data base of MINAM, thesis with IMARPE personel as copromotor**	**IMARPE/UNMSM**	Effective communication
IR 7	**Scientist will be able to transfer the knowledge to be gained from complex mathematical tools to a wider audience**		**intermediate and end evaluation of the project**	**IMARPE/UNMSM**	Training in effective communication
IV. Main activities					
1.1.	Training in Belgium on the use of marine numerical tools			4 laptops on site for Belgium, 1 laptop in Peru, data mining, acquiring soft ware that does not has a good open source alternative, expenses for travelling and oral or poster presentations	
1.1.1	look for correct physical boundary conditions (bathymetry, tides, wind, rivers, …)				
1.1.2	run the model for different periods and validate the results				
1.2	writing a thesis				

1.3	e-consultation
2.1.	setting up a plankton model
2.2.	do the necessary adjustments to the plankton code
2.3.	train people in the use of plakton models
2.4.	e-consultation
2.5.	
3.1.	setting up a sedimentation model
3.2.	do the necessary adjustments/manipulations to the code
3.3.	train people in the use of sedimentation models
3.4.	e-consultation
3.5.	
4.1.	setting up a particle tracking model
4.2.	do the necessary adjustments to the code
4.3.	train people in the use ans manipulations of these type of tools
4.4.	e-consultation