**CHAPTER 4 OF EBM FINALE REPORT**

The EBM Final report is a technical report.

*Instructions*: *Chapters 4 is a merge between the System Cause-Effect Analysis and the Reporting tool's document, that I have already prepared for you (doc attached as "Integration....").*

*Merging the two documents here means that you have to explain with words - in a synthetic way - the rows of the system cause-effect analysis that brought to your protocols' proposals. When you have data (graphs), you take the graphs from the document "Integration..." and you add them in the text. When you don't have the data, but you have only the indicators, you copy-paste in the text the table of the indicators and you say that you have no information yet, and this is the reason why you want to go to the field to collect data (gap analysis). Everything needs a justification.*

*So, at the end, you will have in the EBM final report the System C-E Analysis table as an Annex, but you have also a written part + graphs and indicators, in which the reader can understand our step-by-step path that brought us to propose and write certain protocols*.

***In Italics, along the present document, the suggestions to write the chapter. In green, the paragraphs drafted below for support purposes.***

**CONTENT OF CHAPTER 4 OF EBM FINALE REPORT**

**4.1 – Occupational fishing -> Fish**

4.1.1 - Process explanation: diagram + components + relations

4.1.2 – From the gap analysis to the identification of options and opportunities

**4.2 – Occupational fishing -> South beach**

4.2.1 – Process explanation: diagram + components + relations

4.2.2 - Options and opportunities already identified

**4.3 – Recreational fishing -> Reef fish**

**-> Coastal fish**

4.3.1 – Process explanation: diagram + components + relations

4.3.2 - Options and opportunities already identified

**4.4 – Fishing violations -> Fish**

4.4.1 – Process explanation: diagram + components + relations

4.4.2 - Options and opportunities already identified

**4.5 – Fishing activities -> Corals**

**-> Tourist amenities**

4.5.1 – Process explanation: diagram + components + relations

4.5.2 - Options and opportunities already identified

**4.6 – Tourist amenities -> Corals**

4.6.1 – Process explanation: diagram + components + relations

4.6.2 - Options and opportunities already identified

**FISHERY**

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Occupational Fishing -> Fish

[OccupationalFishing (Id=59)]A green oval with black text

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| --- | --- | --- | --- | --- |
| **Indicators attached to component: OccupationalFishing (Id=59)** | | | | |
| **Name** | **Description** | **DataSource** | **UpdateFrequency** | **Notes** |
| Fisheries Catch Data (by Species) |  | JREDS | Daily |  |
| Fisheries Total Catch Data by Day |  | JREDS | Daily |  |
| Monthly Catch Efforts |  | JREDS | Monthly |  |
| Fisheries Catch KG/Gear |  |  | Monthly |  |

*The first row of the System Cause-Effect Analysis analysed the relations between “Occupation fishing” and “Fish”.*

*The core concept is the following: “Occupational Fishing” includes the activities that involve professional fishermen. Considering the indicators “total monthly catch (Kg)” and “Total fish catch by day (Kg)”, a general negative trend was registered between 2014 and 2021, with the exception for the 2022.”*

*During the discussions, in fact, the team observed the graphs copied below, highlighting the different trends of the fishing areas and advance the hypothesis why the trends show a certain pattern.*

**Indicator: Fisheries Total Catch by Year/Month (Kg)**

ACT

A graph showing the number of fish caught in the fish

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AMR

A graph with red lines

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GBNPB

A graph with red lines

Description automatically generated

HA

A graph with red lines

Description automatically generated

OMP

A graph showing the number of fish caught in the fish market

Description automatically generated

OPLB

A graph with red lines

Description automatically generated

OPS

A graph showing the number of fish caught in the fish

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Indicator: Fisheries Total Catch by Year/Month/Day (Kg)

ACT

A graph of a fish

Description automatically generated with medium confidence

AMR

A graph with numbers and a number of people

Description automatically generated with medium confidence

GBNPB

A graph with numbers and lines

Description automatically generated with medium confidence

HA

A graph of a fish

Description automatically generated with medium confidence

OMP

A graph with red lines

Description automatically generated

OPLB

A screenshot of a graph

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OPS

A graph of fish caught in a fishing line

Description automatically generated with medium confidence

*Relation with:*

[Fish (Id=33)]

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| --- | --- | --- | --- | --- |
| **Indicators attached to component: Fish (Id=33)** | | | | |
| **Name** | **Description** | **DataSource** | **UpdateFrequency** | **Notes** |
| Presence of species |  |  |  |  |
| Abundance of Key species |  | Reefcheck |  |  |
| Size of the key species |  | Reefcheck |  |  |
| RED list species |  |  |  |  |

Indicator: Commercial Status by Order as Total Number of Species.

0=Non Commercial

1=Illegal (use for aquarium)

2=Commercial (legal)

2019

A screenshot of a graph

Description automatically generated

Indicator: Endangered Status by Order as Total Number of Species.

1=Least concern

2=Near threatend

3=Valnerable

4=Endangered

2019

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[Fish (Id=33)] -> [Reef fish (Id=37)]

FBRC

A graph of different colored squares

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JGDS

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KARS

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MSS

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SSDS

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*Occupational Fishing -> South Beach*

*Second row of the System Cause-Effect Anlaysis: Occupational fishing related with South beach. The confirmation of the lack of information entered is remarked by the text in the System Cause-Effect Analysis, which is only in blue colour (qualitative information, expert’s knowledge).*

[South beach (Id=78)]

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| **Indicators attached to component: South beach (Id=78)** | | | | |
| **Name** | **Description** | **DataSource** | **UpdateFrequency** | **Notes** |
| Number of visitors |  |  |  |  |
| Water quality |  |  |  |  |
| Waste management |  |  |  |  |

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No data

**TOURISM**A white background with black dots

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[Fishing activities (Id=58)]

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Indicators attached to component: Fishing activities (Id=58)** | | | | |
| **Name** | **Description** | **DataSource** | **UpdateFrequency** | **Notes** |
| N° of Boats | 156 fishing boats | ASEZA  Navy  Maritime Authority |  |  |
| N° of Fishermen |  | ASEZA  Navy  Maritime Authority |  |  |
| N° of Fishing Licenses |  | ASEZA  Navy  Maritime Authority |  |  |
| Fishing Gears | Type of different fishing equipment. | ASEZA  Navy  Maritime Authority |  |  |
| Landings by Species |  | JREDS | Daily |  |

*No data, reason why the proposal of the team was a monitoring protocol.*

COMPONENT: [Tourist Amenities (Id=91)]

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| **Indicators attached to component: Tourist Amenities (Id=91)** | | | | |
| **Name** | **Description** | **DataSource** | **UpdateFrequency** | **Notes** |
| Industrial Diving Activity | N° of Professional Divers  Type of service provided | Social Security System  Aqaba Labour Dept. |  |  |

SUBCOMPONENT: [Other touristic activities (Id=96)]

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| --- | --- | --- | --- | --- |
| **Indicators attached to component: Other touristic activities (Id=96)** | | | | |
| **Name** | **Description** | **DataSource** | **UpdateFrequency** | **Notes** |
| Number bottom boats | 98 glass bottom boats, belonging to one association |  |  |  |

*No data, reason why the proposal of the team was a monitoring protocol.*

*Other example, Line 8 of the System Cause-Effect Analysis.*

*Because the tourists’ amenities have no data yet, the analysis between that component and the corals were basically qualitative. The text is mainly written in blue: “ Indicators could be anchoring damages of coral, ghost gears or lines. Tourists are doing fishing activities, because they lack expertise. They can use illegal practices, such as the examples of glass bottom boats (anchoring or fishing activities, that are illegal). Cruise also proposes the fishing, but it is illegal. Actual regulation says that they can use only the lines, nothing else. They must ask the approval license to use the lines. Action put in place nowadays or in the next future: UNDP, EU and ASEZA preparing plan to change signs to add the illegal activities list. Design done, planning to set very soon (within 2023). Visitor centre will be provided of awareness material, website included and social media.”*

[Tourist Amenities (Id=91)] -> [Corals (Id=46)]

[Corals (Id=46)]

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| **Indicators attached to component: Corals (Id=46)** | | | | |
| **Name** | **Description** | **DataSource** | **UpdateFrequency** | **Notes** |
| Impact Reefcheck JREDS | Size of Damage  Level of Damage  Source of Damage | JREDS | Occasional |  |
| Reefcheck Monitoring Substrate |  | JREDS | Occasional |  |
| Coral status From Marine Habitat Map 2019 |  | JREDS | Occasional |  |

Indicator: Reefcheck Monitoring Substrate

2017/08

A graph showing different colored lines

Description automatically generated with medium confidence

2017/11

A graph showing different colored lines

Description automatically generated with medium confidence

2018/02

A graph showing different colored lines

Description automatically generated with medium confidence

2018/04

A graph showing different colored lines

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