

Mediterranean Forum For Applied Ecosystem-Based Management



THE EBM APPROACH FOR THE INTEGRATED MANAGEMENT OF MARINE-COASTAL ZONES

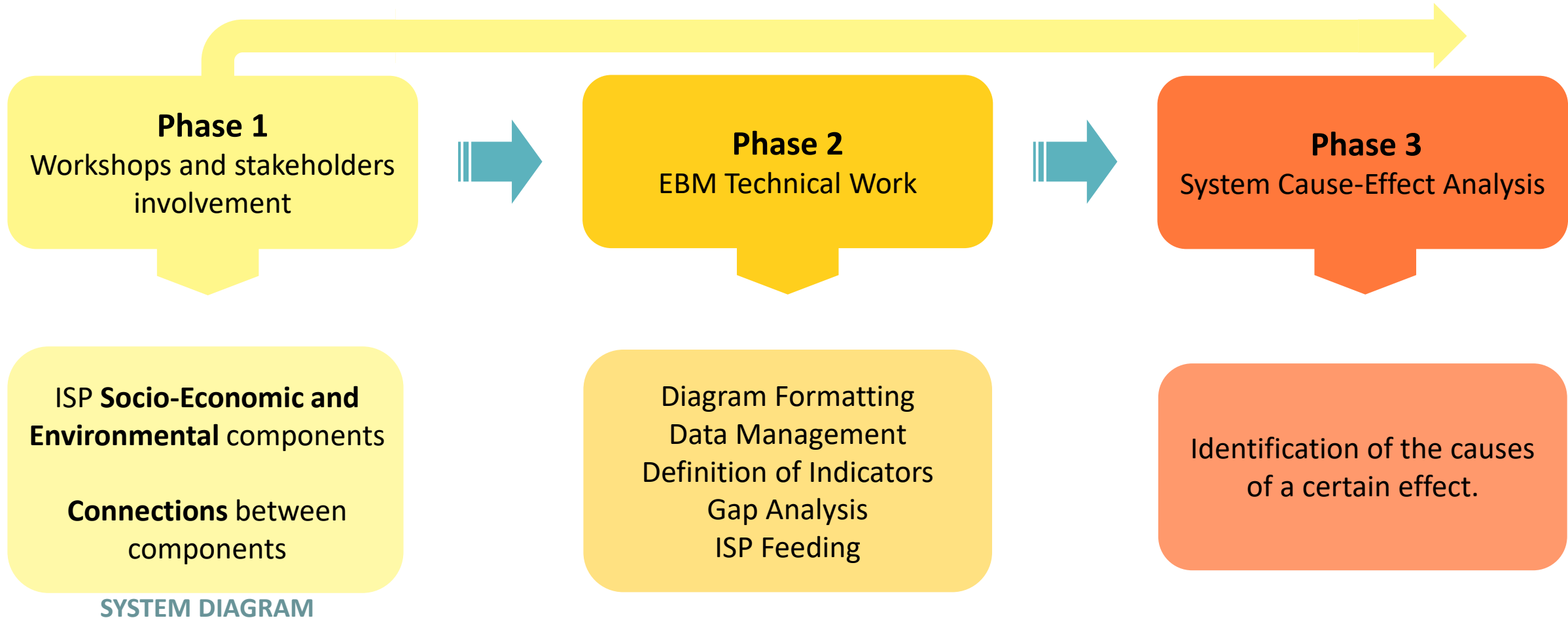
12-13 May 2022 – Sibari Cassano allo Ionio | Live streaming

MED4EBM

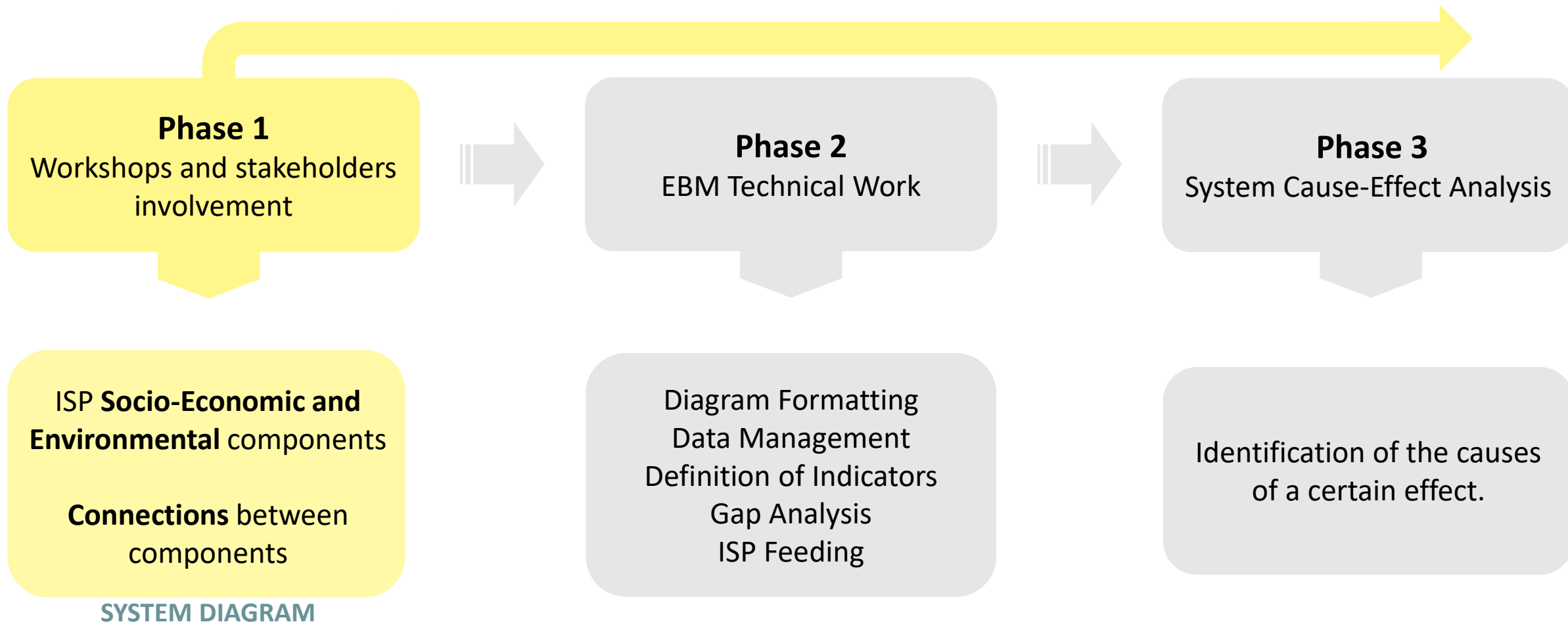
Application Experience in the Corigliano Gulf - Italy

Matteo Onori
GIS & DB Expert – Amici della Terra Onlus

Main Work Phases



Main Work Phases



Phase 1: Workshops and stakeholder involvement

This first phase of the EBM Protocol consisted of three main parts:

1. Key Stakeholders

Spatial and thematic scopes of the EBM application

Ecosystem Context Analysis



Phase 1: Workshops and stakeholder involvement

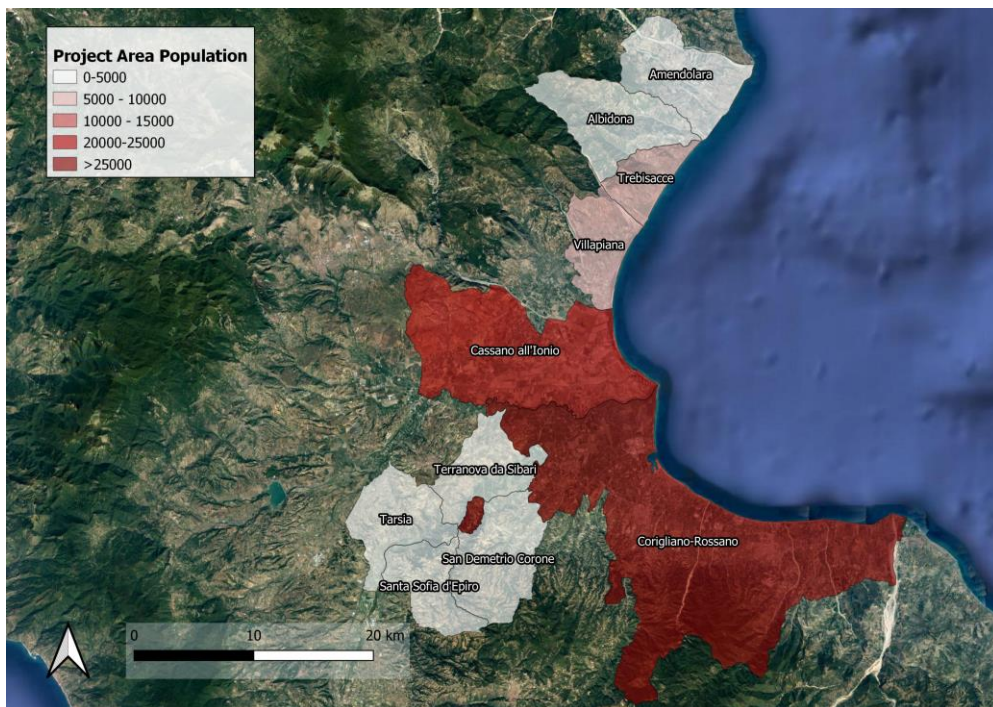


This first phase of the EBM Protocol consisted of three main parts:

Key Stakeholders

2. Spatial and thematic scopes of the EBM application

Ecosystem Context Analysis



10 Municipalities	Population
Corigliano-Rossano	74850
Cassano all'Ionio	16670
Trebisacce	8723
Villapiana	5433
Terranova da Sibari	4694
San Demetrio Corone	3240
Amendolara	2772
Santa Sofia d'Epiro	2328
Tarsia	1923
Albidona	1222
Total	121855

Phase 1: Workshops and stakeholder involvement

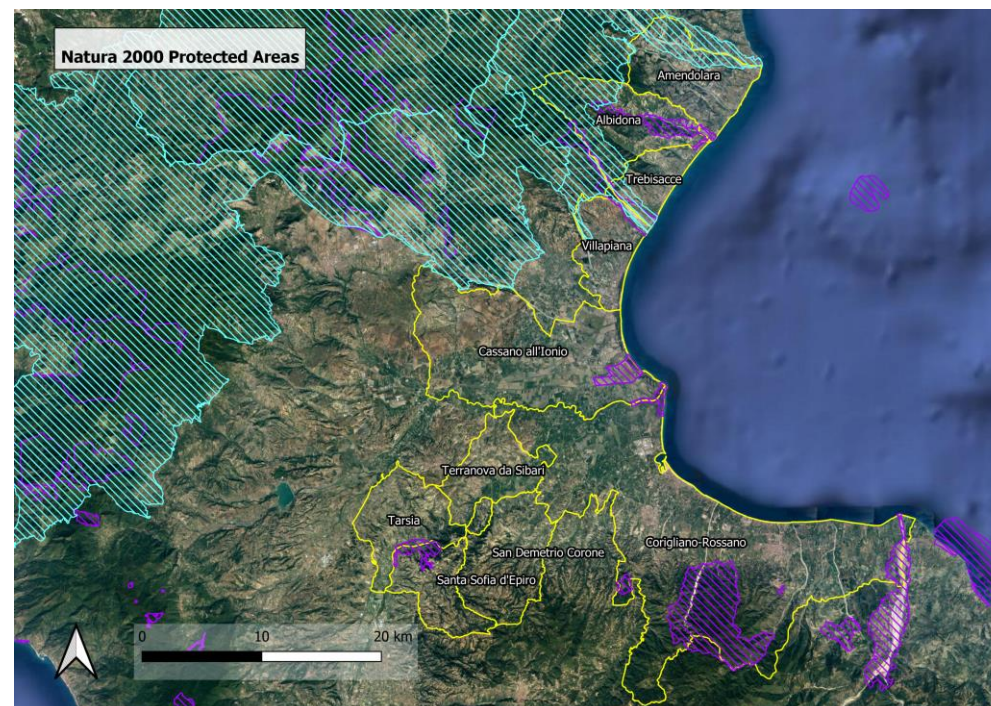
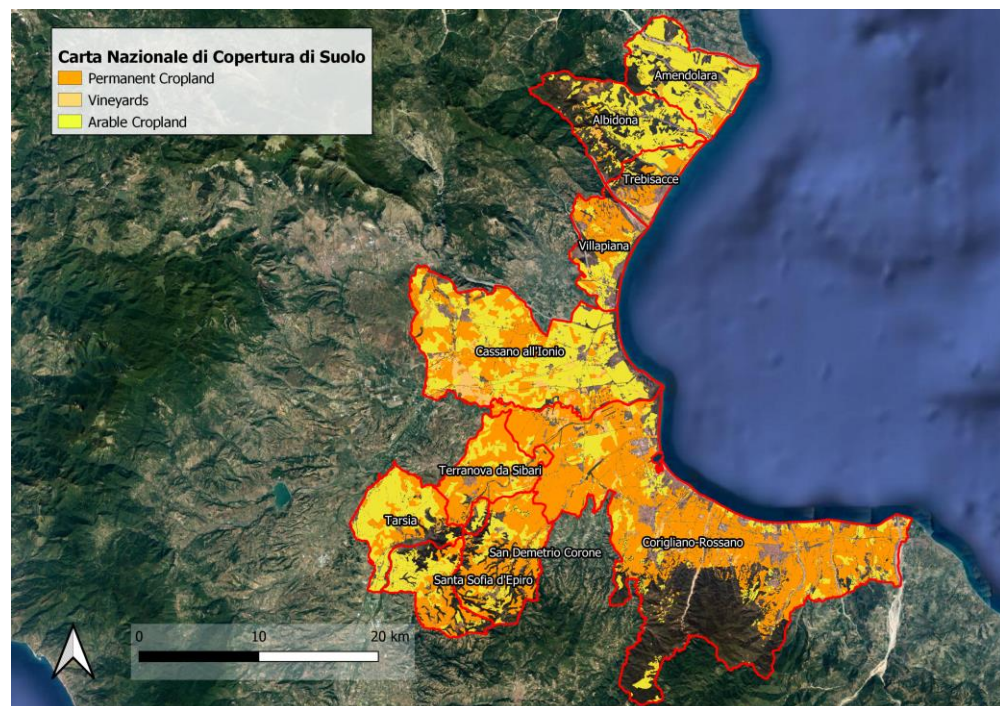


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Ecosystem Context Analysis



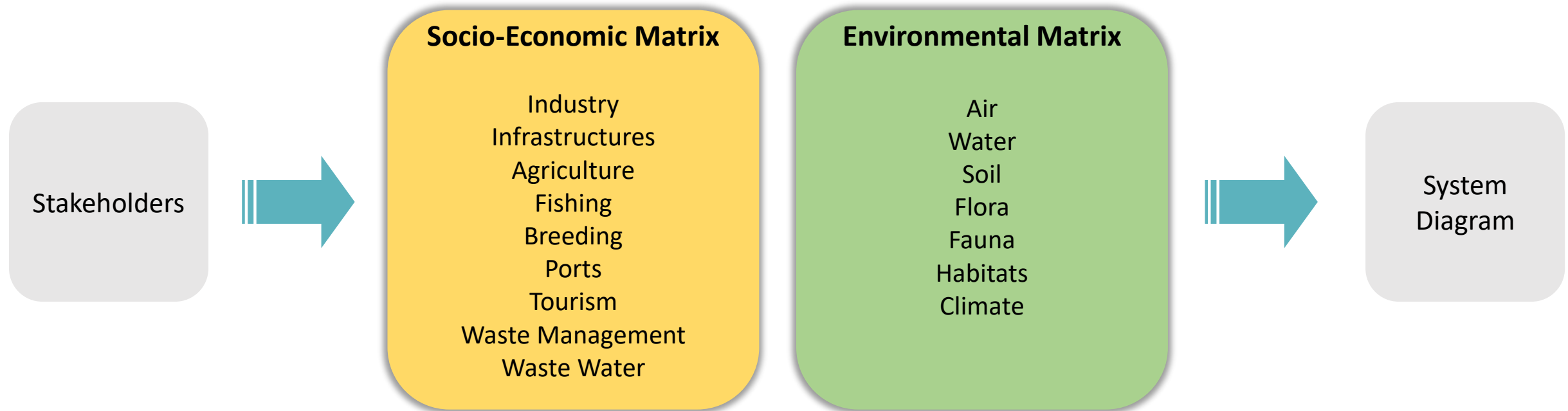
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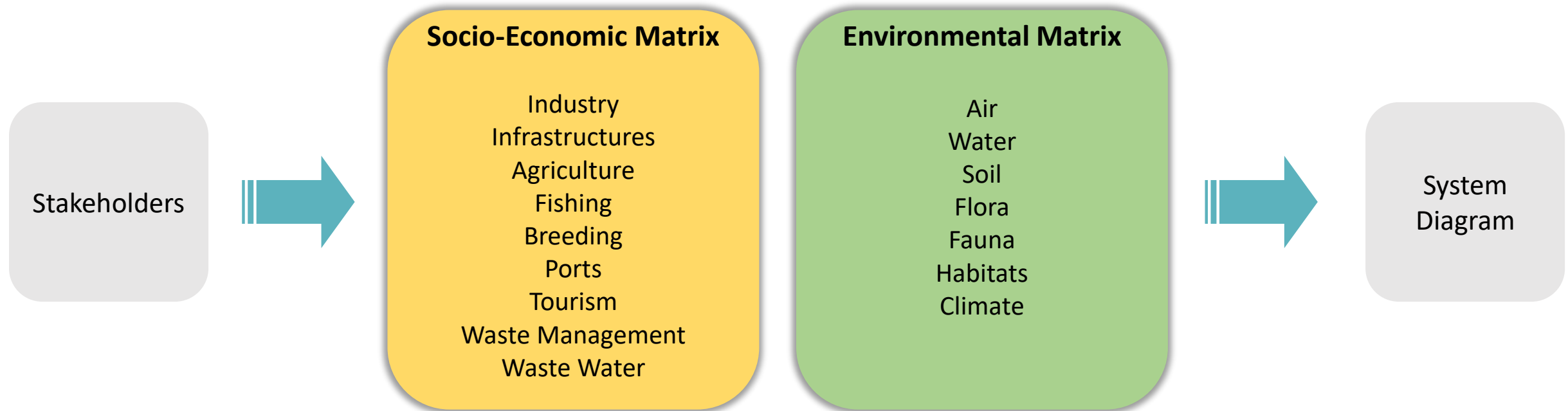
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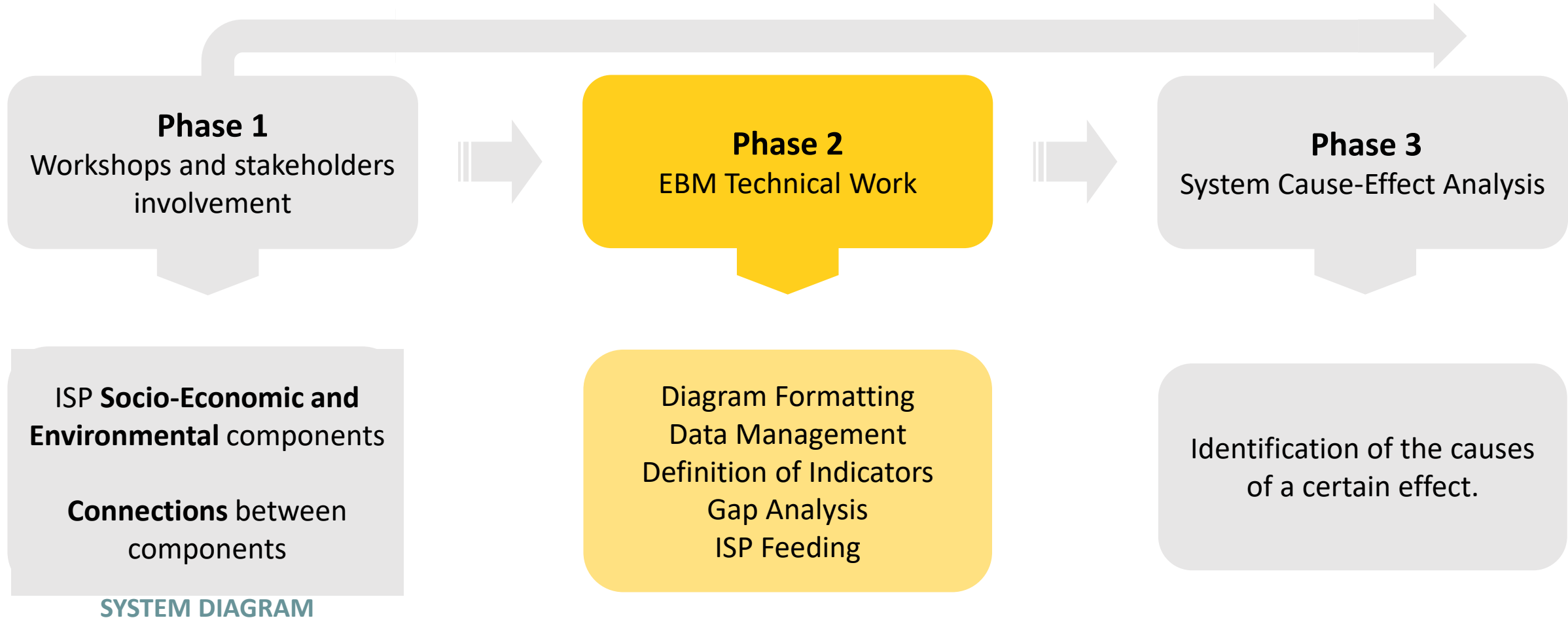
Key Stakeholders

Spatial and thematic scopes of the EBM application

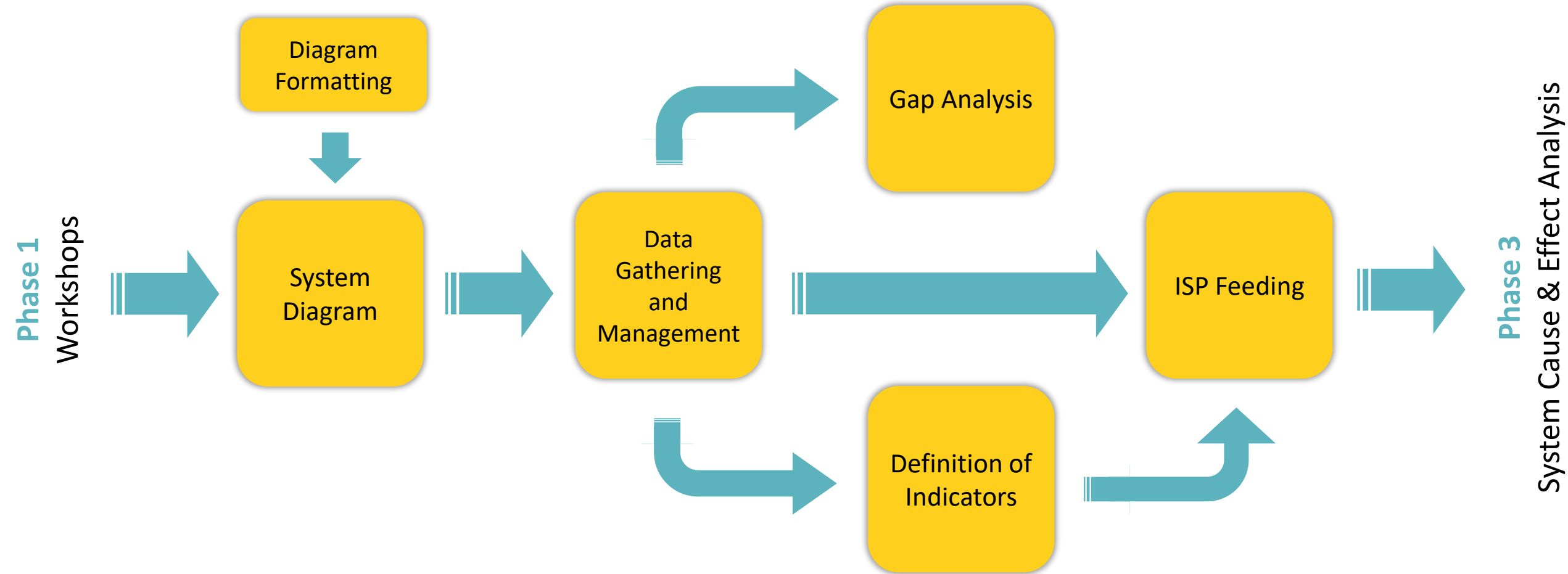
3. Ecosystem Context Analysis



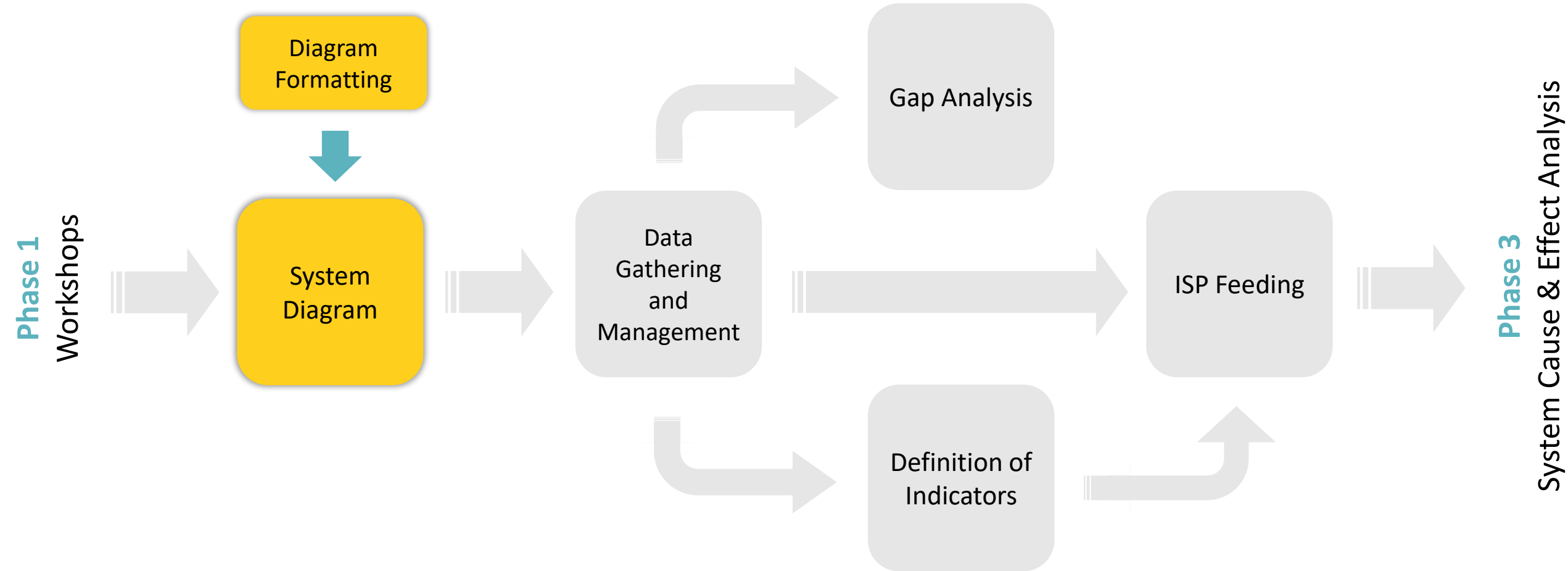
Main Work Phases



Phase 2: EBM Technical Work



Phase 2: EBM Technical Work - Diagram

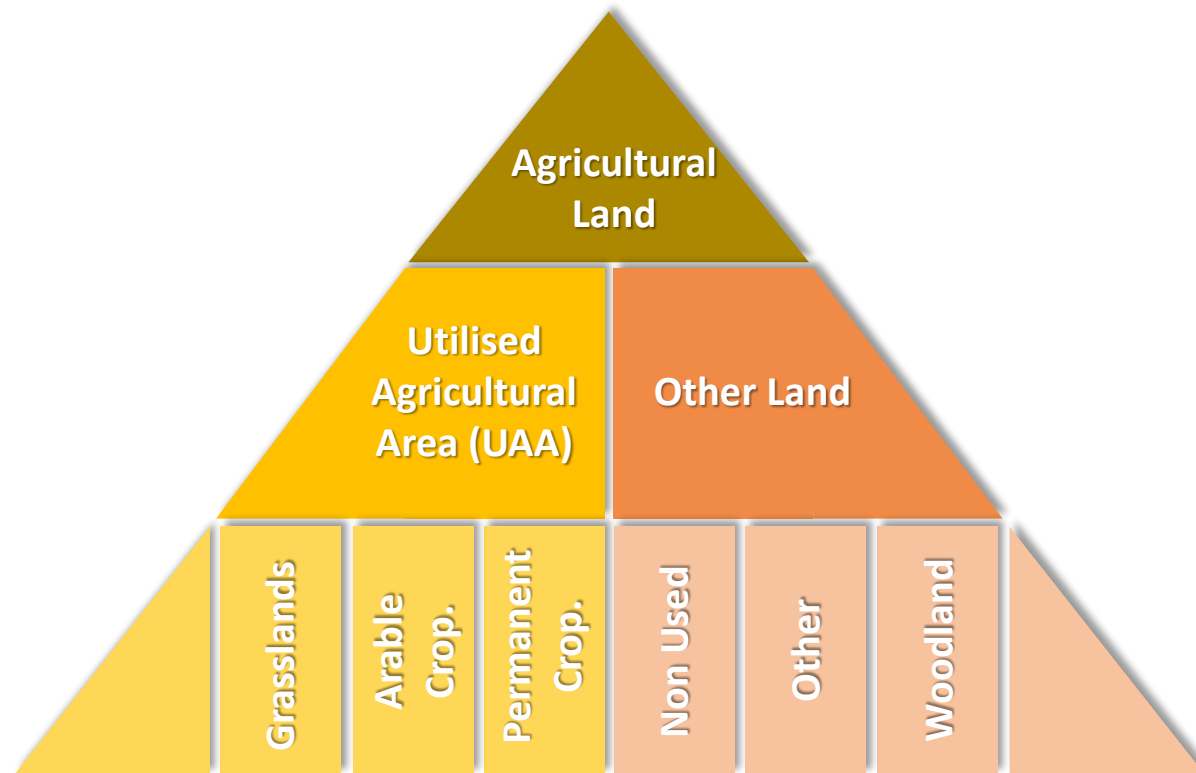


Phase 2: EBM Technical Work - Diagram



The system diagram has been redrawn with **three objectives**:

- 1. READABILITY:** improved graphic display and spatial organisation of components and their connections.
- 2. FUNCTIONALITY:** the nomenclature of the components has been adapted to the **official classifications**.
- 3. STRATIFICATION:** creation of multi-level components to display data at different levels of detail.

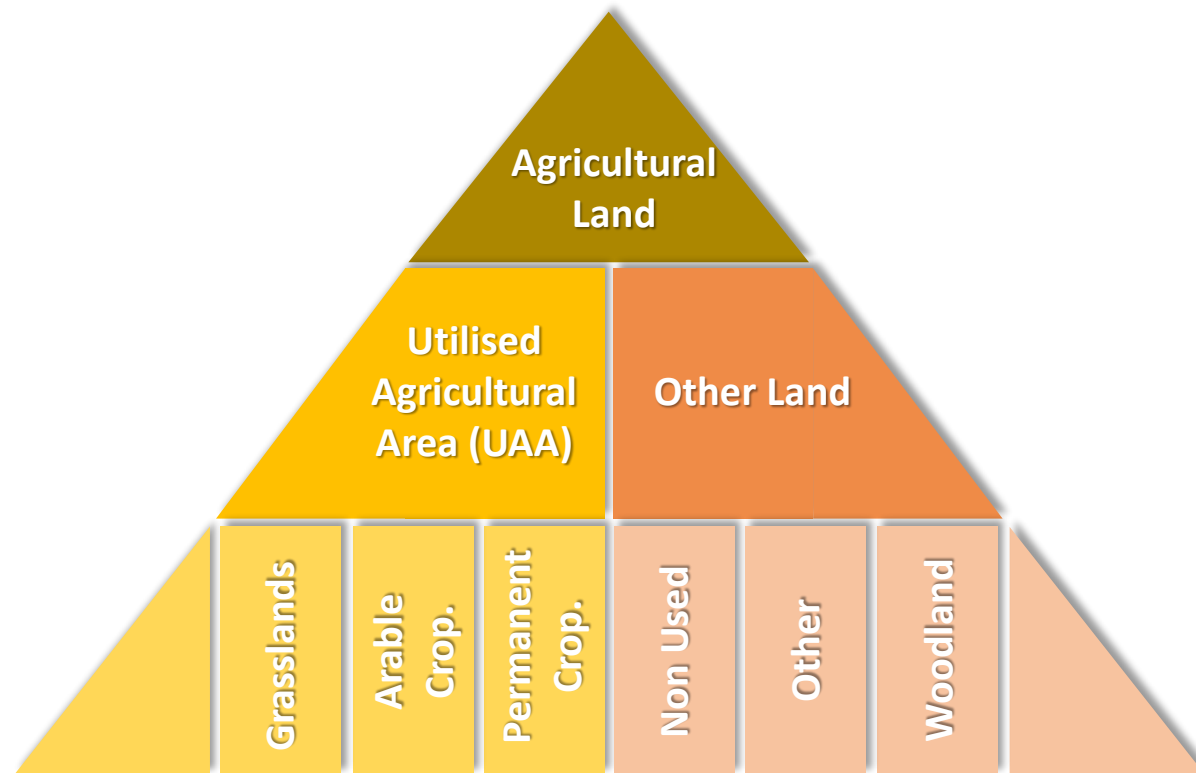


Phase 2: EBM Technical Work - Diagram

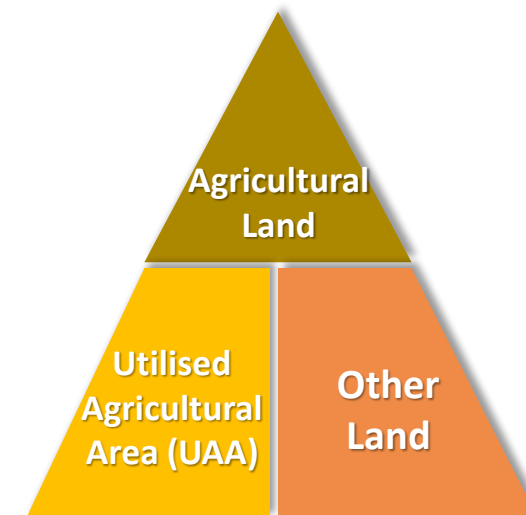
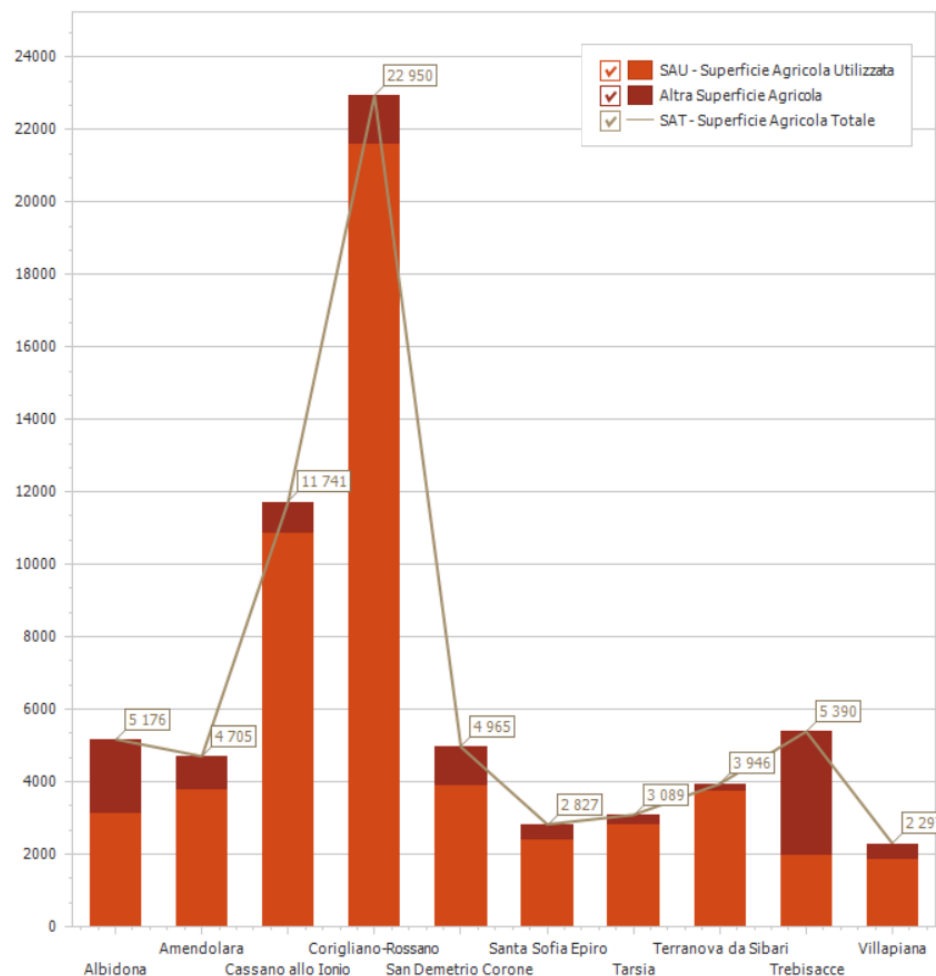


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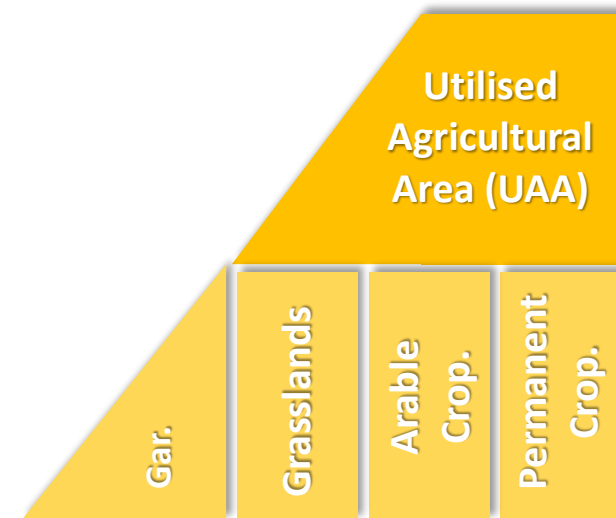
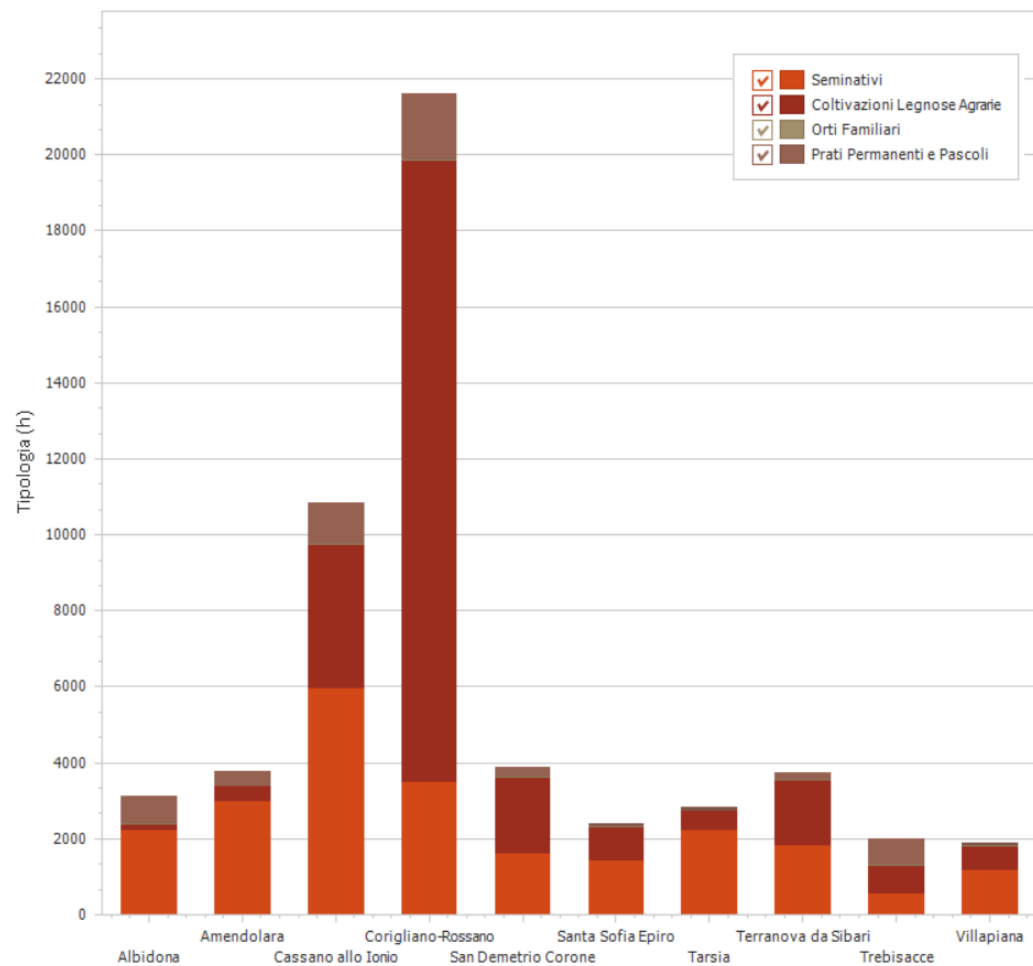
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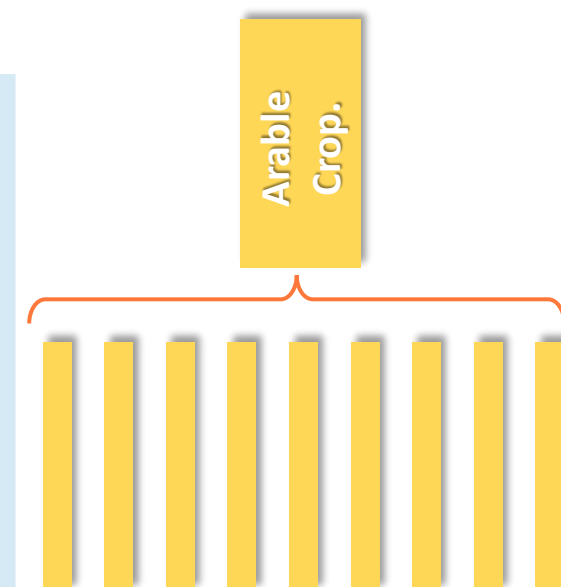
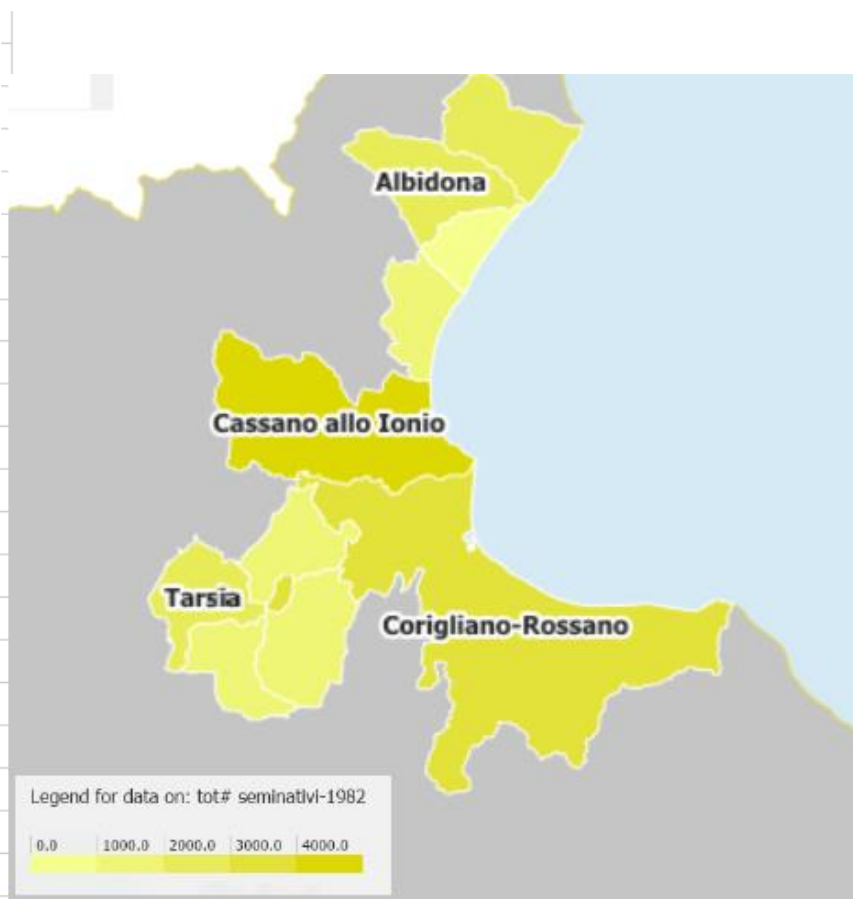
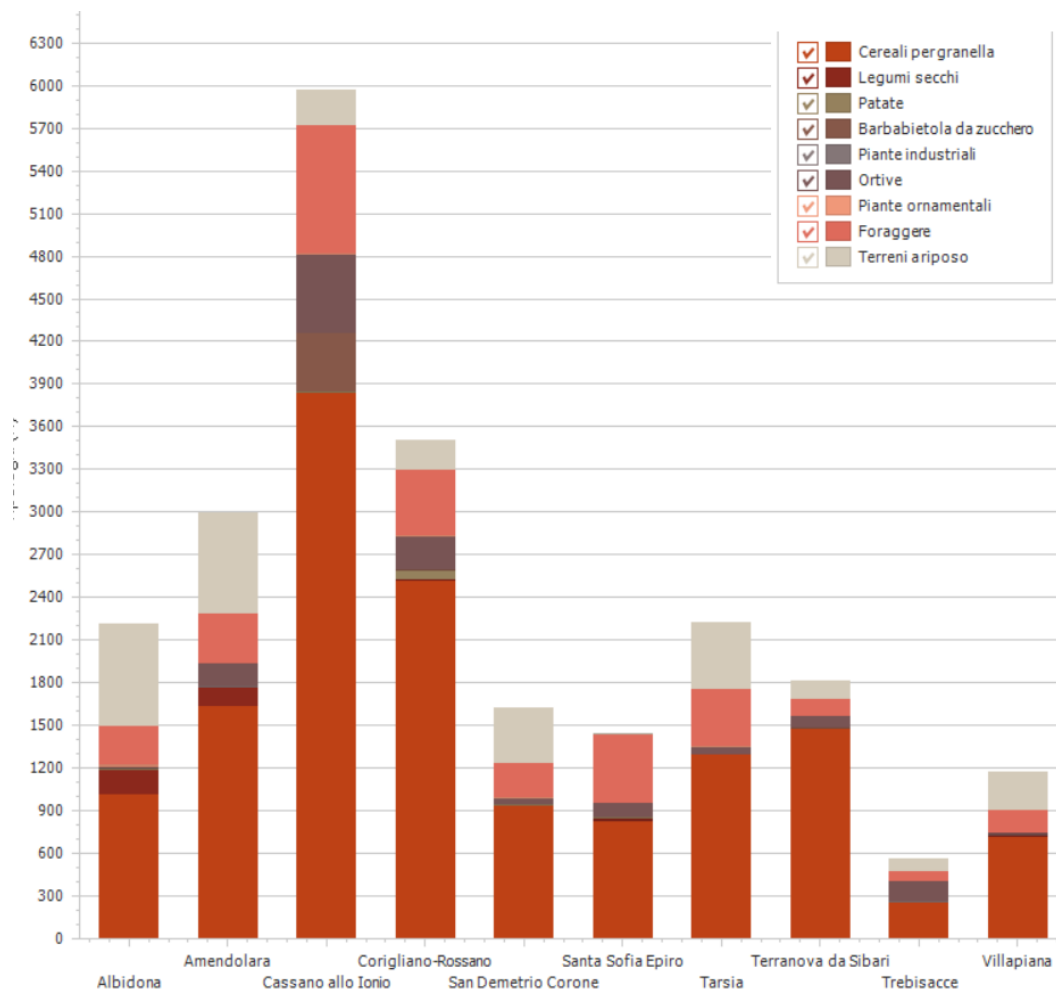
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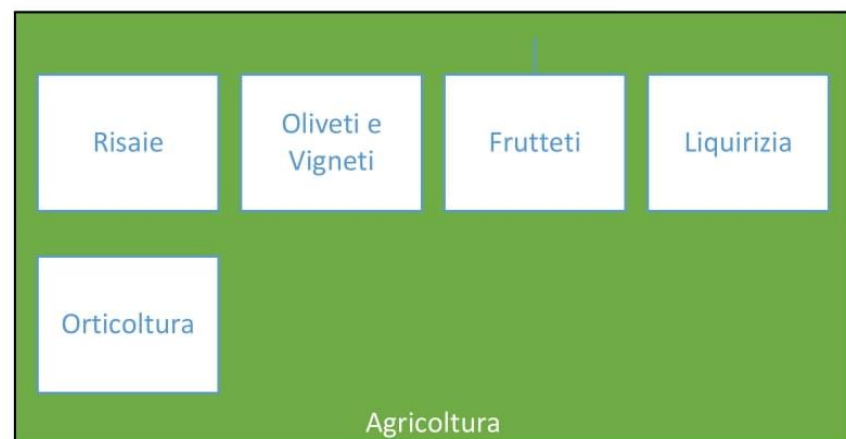


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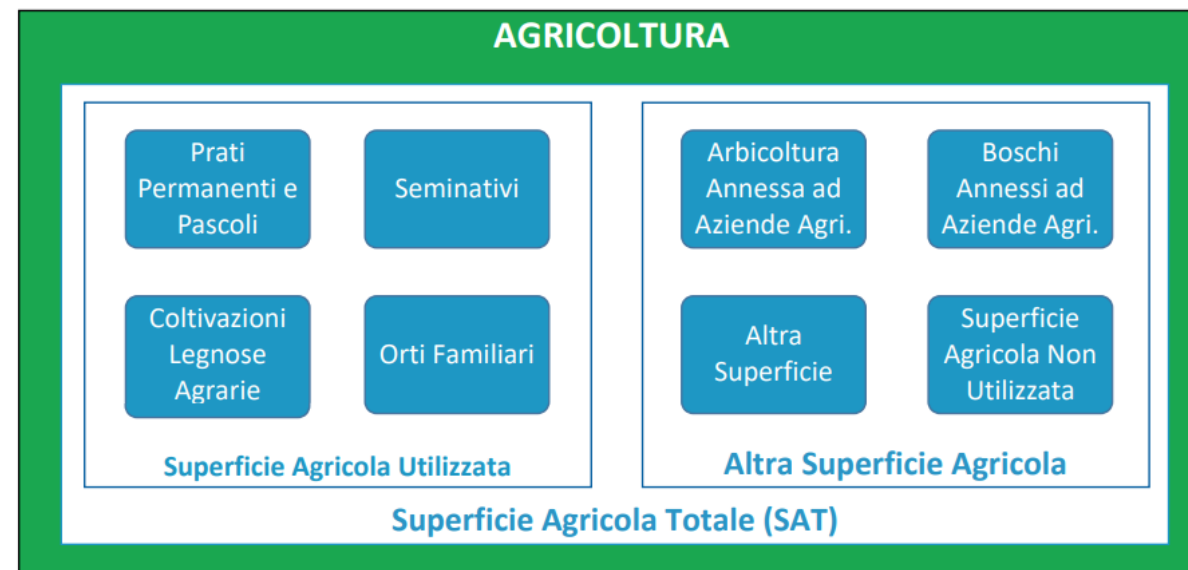


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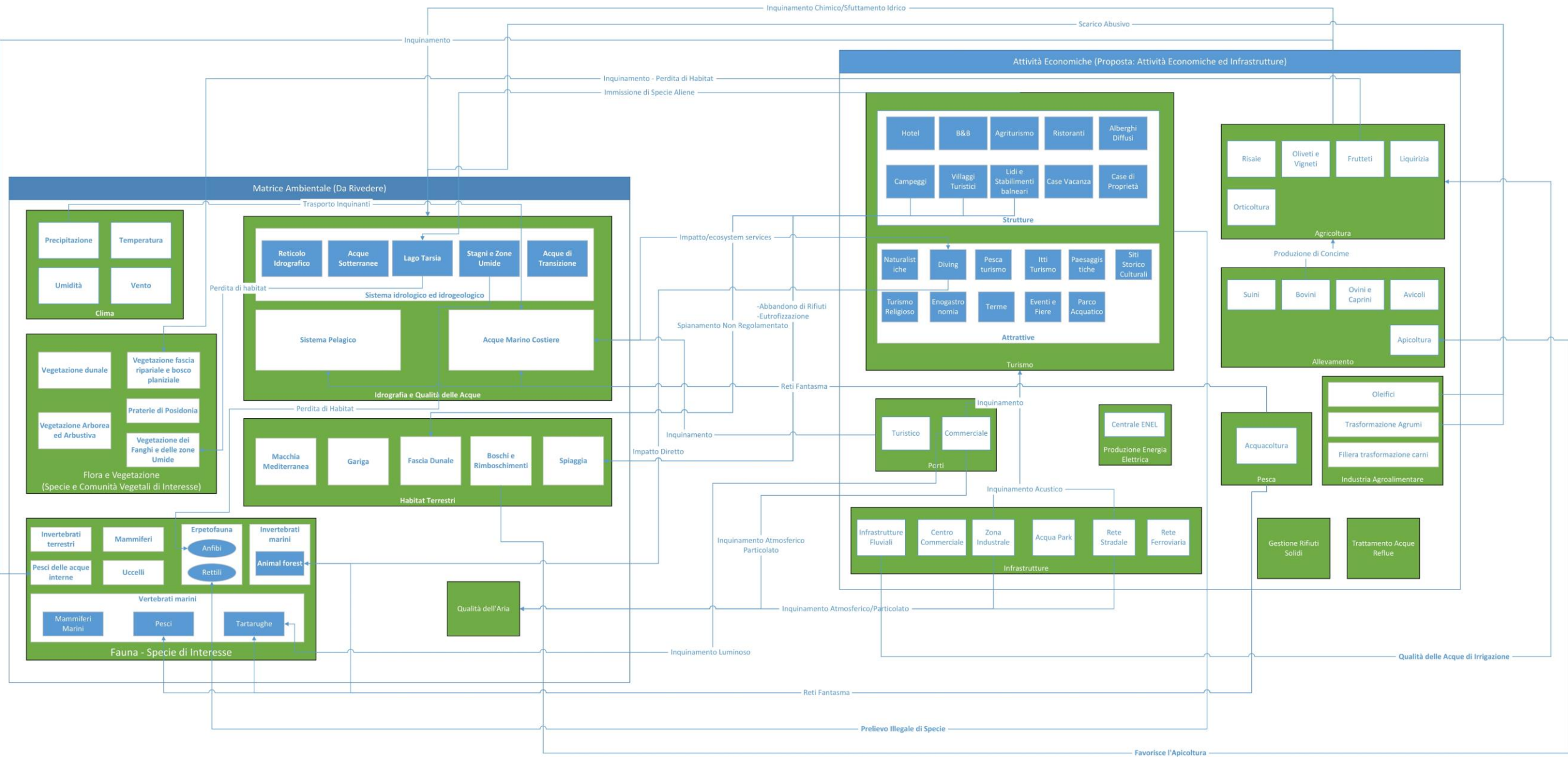
Readability, Functionality, Stratification



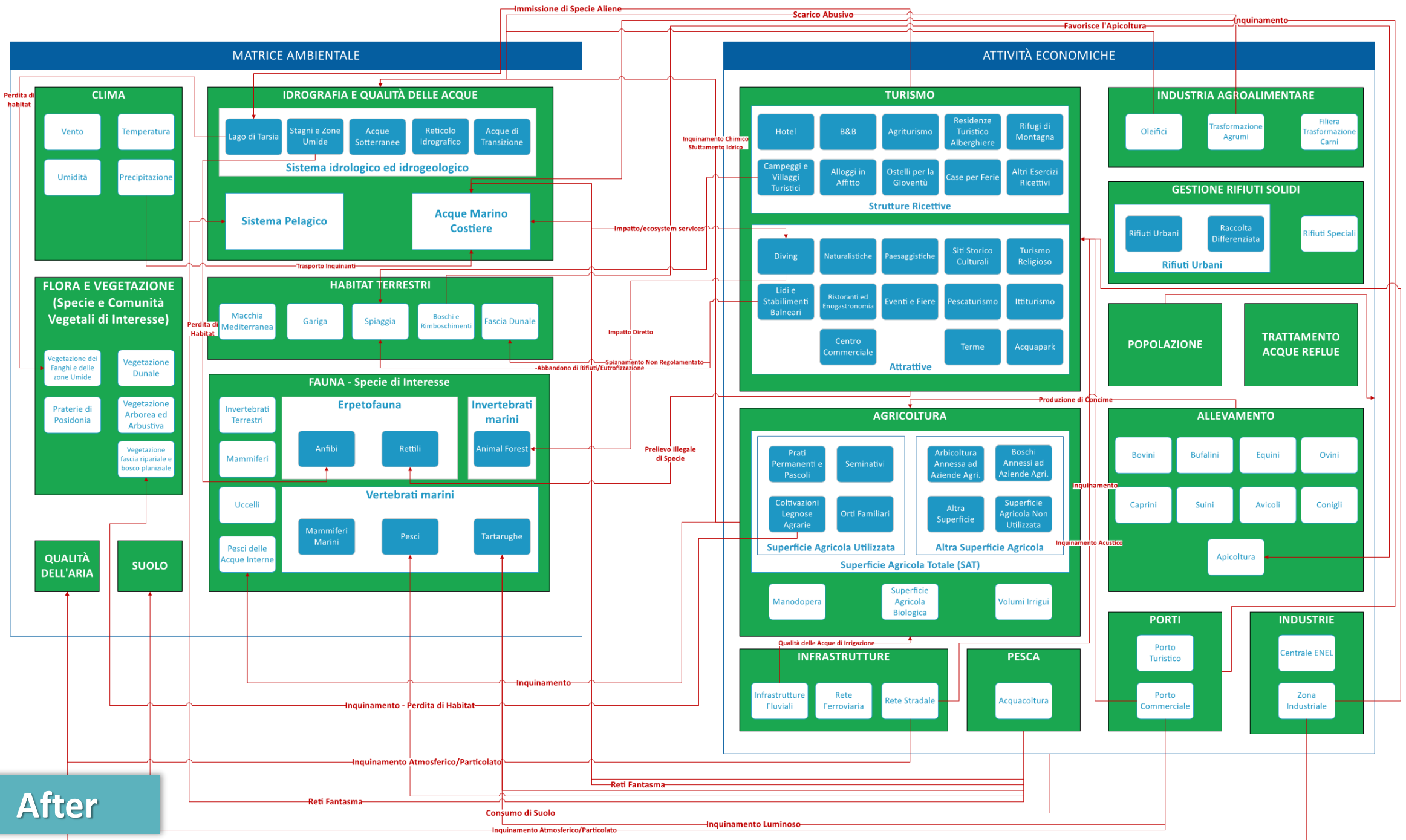
Before



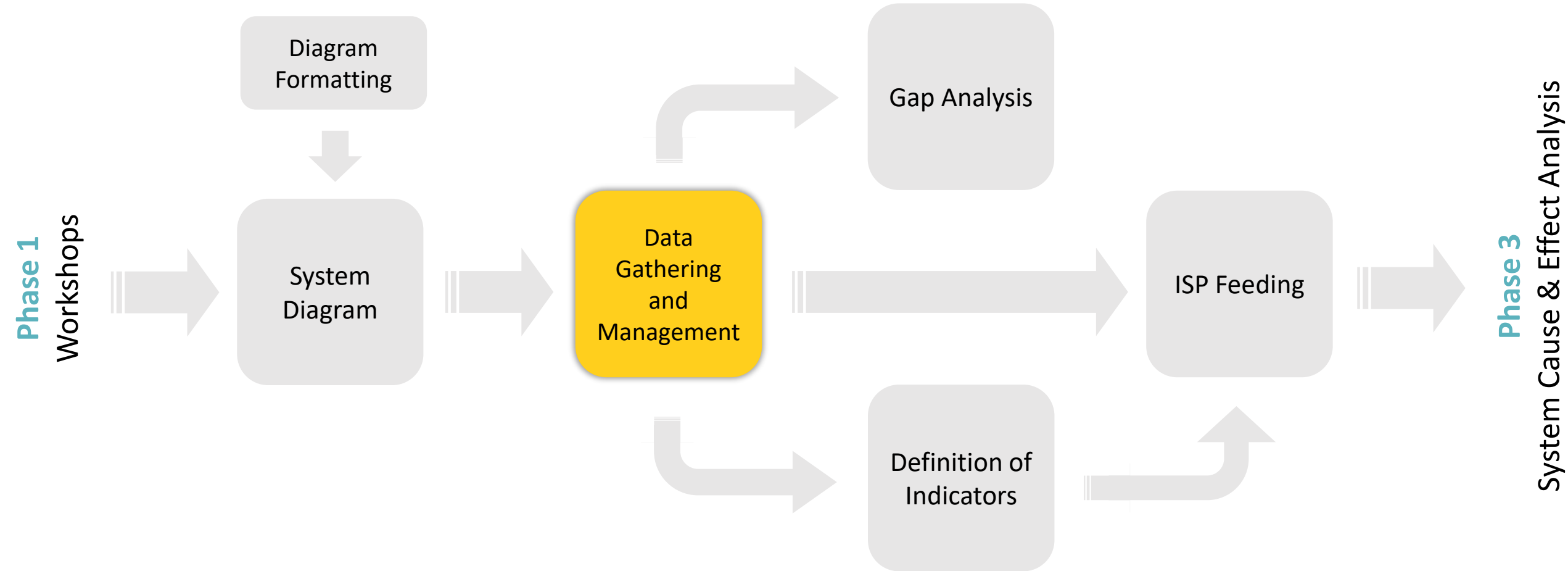
After



Before



Phase 2: EBM Technical Work - Data



Phase 2: EBM Technical Work - Data



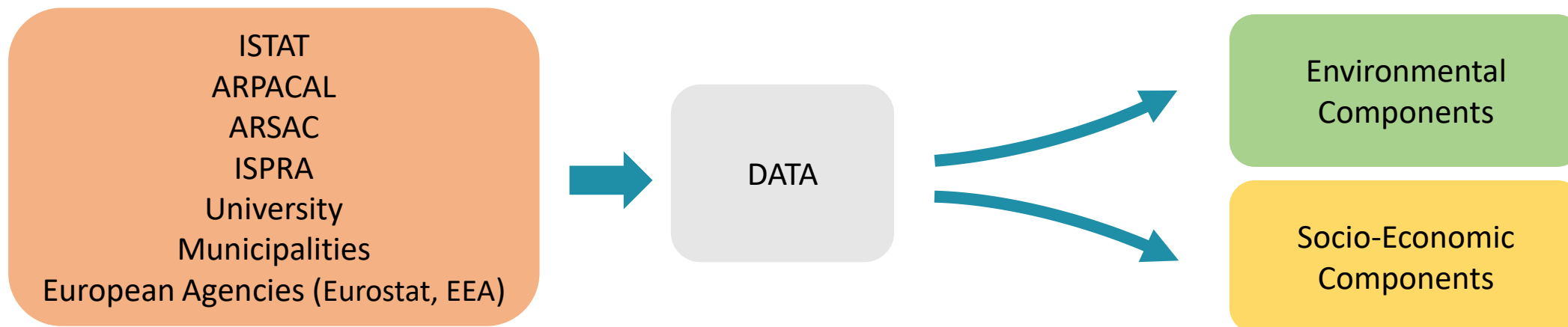
During the gathering data procedure we tried to answer two questions:

WHAT?

We were looking for data that could be linked to the corresponding socio-economic or environmental component within the system diagram.



Data banks from institution and stakeholders



Phase 2: EBM Technical Work - Data



During the gathering data procedure we tried to answer two questions:

HOW?

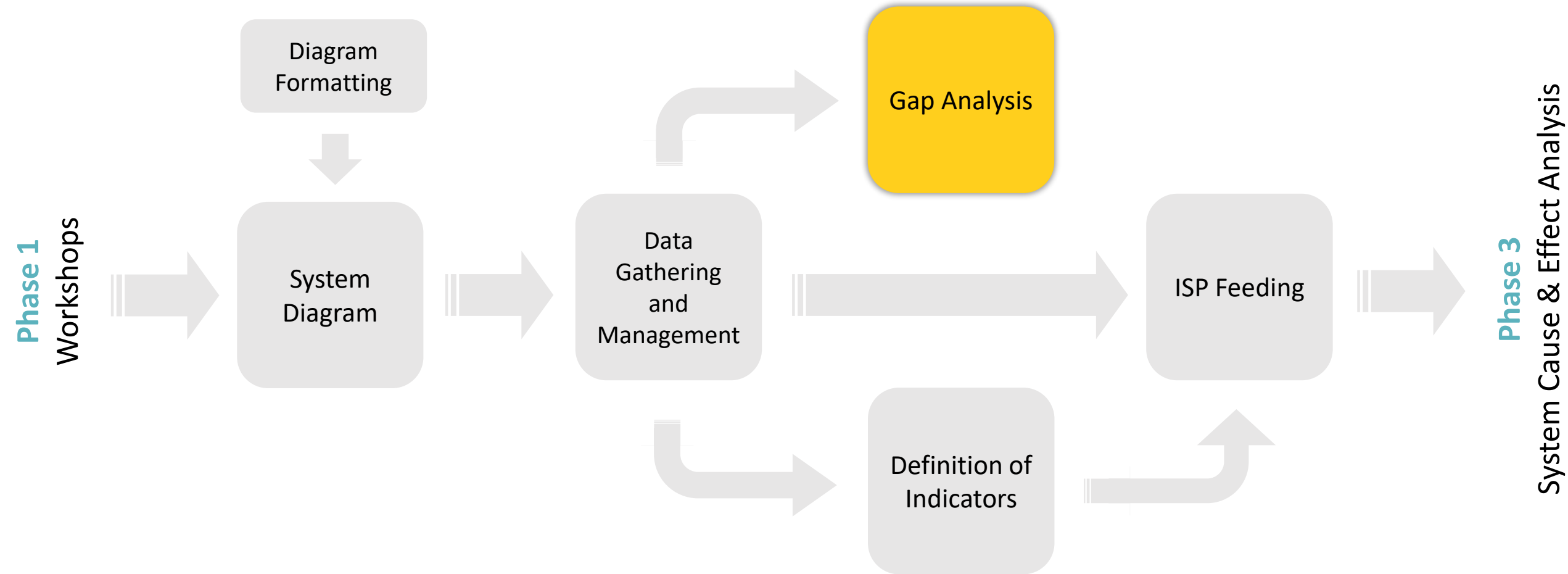
Extremely detailed data banks with huge amounts of data

1. **SUSTAINABILITY**: no extremely detailed and no unnecessary data.
2. **FUNCTIONALITY**: priority to data allowing an immediate and comprehensible representation of the phenomena.
3. **UNIFORMITY**: The way the software displays the data has conditioned the way we wanted the data to be formatted.



Excel
SQL Server

Phase 2: EBM Technical Work – Gap Analysis



Phase 2: EBM Technical Work – Gap Analysis

Three main factors that form the gap analysis: **1. Data are not available/ No access to data**

Environmental Matrix

Chemical St. of Groundwater
Chemical St. of Surface Water
Terrestrial Habitats

Socio-Economic Matrix

Infrastructure
Fishing
Ports
Waste Water

Proposed Solution

Involvement of stakeholders for
field data collection through
survey campaigns.

Flora and Fauna data from the
collaboration with the **University
of Calabria.**

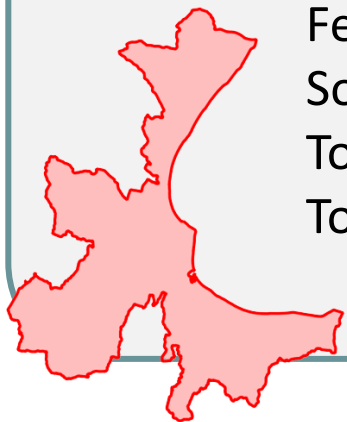
Phase 2: EBM Technical Work – Gap Analysis



Three main factors that form the gap analysis: **2. Spatial resolution is not adequate**

Proposed Solution

Access to Data with Provincial Resolution



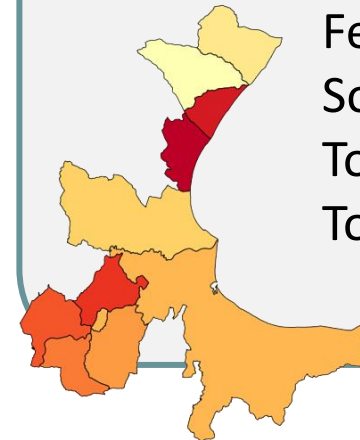
Fertilizers
Soil improvers
Tourist arrivals
Tourist presence

Estimation with SQL Views and Excel



One value with
Municipality Resolution to
evaluate the estimations

Our Estimate Municipality Resolution



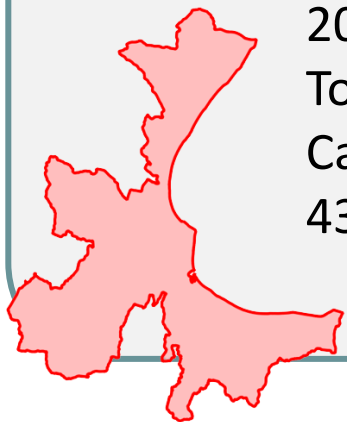
Fertilizers
Soil improvers
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Phase 2: EBM Technical Work – Gap Analysis

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Proposed Solution

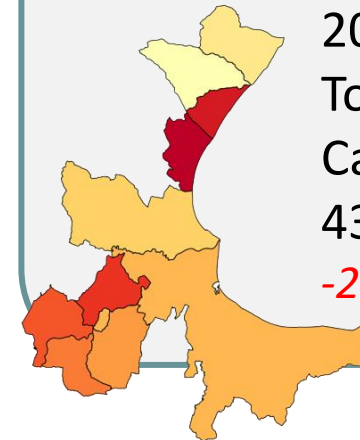
Official Report



2015
Tourist Presence
Cassano All'Jonio
435214

Estimation with SQL Views and Excel

Our Estimate



2015
Tourist Presence
Cassano All'Jonio
432898
-2316 (-0.5%)

Phase 2: EBM Technical Work – Gap Analysis



Three main factors that form the gap analysis: **3. Time resolution is not adequate**

Air Quality

We have the access to

Annual Means, Peak Values,
Exceedances

SO₂

NO₂

PM₁₀

Air Quality

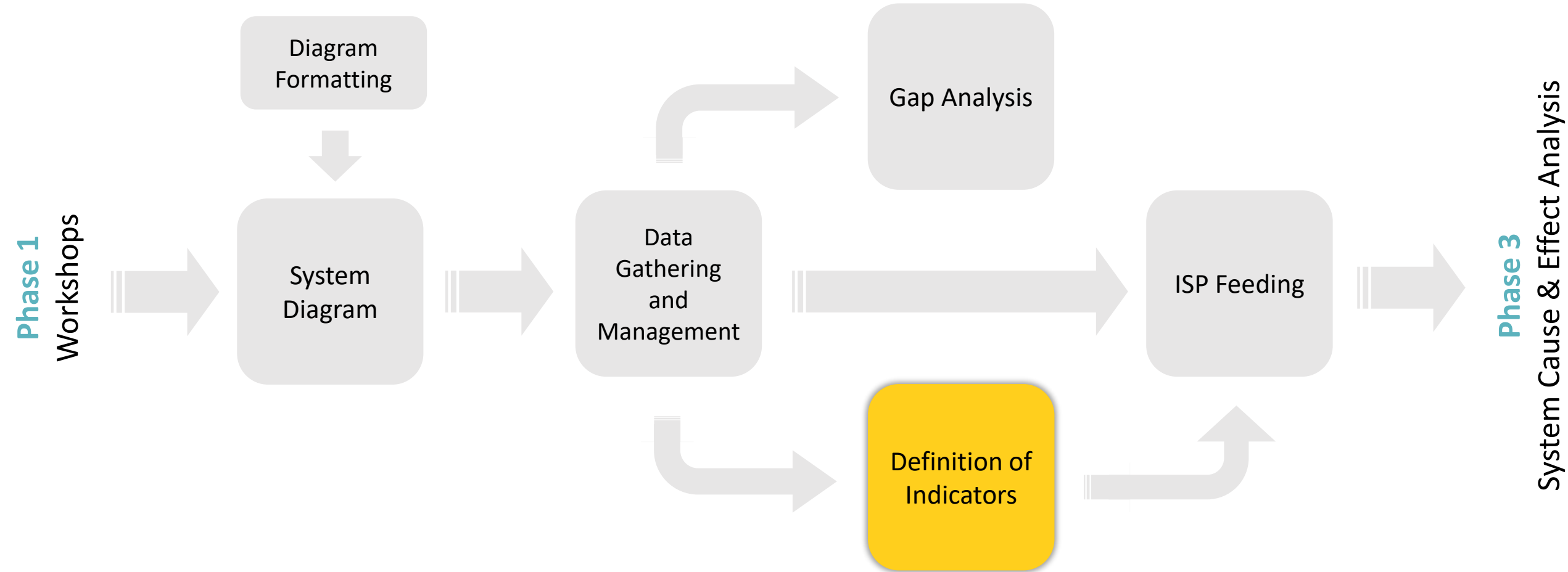
We want the access to

Values for
each week,
each month,
each season.

Proposed Solution

Involvement of stakeholders for
availability of data with a higher
detail in time resolution.

Phase 2: EBM Technical Work - Indicators



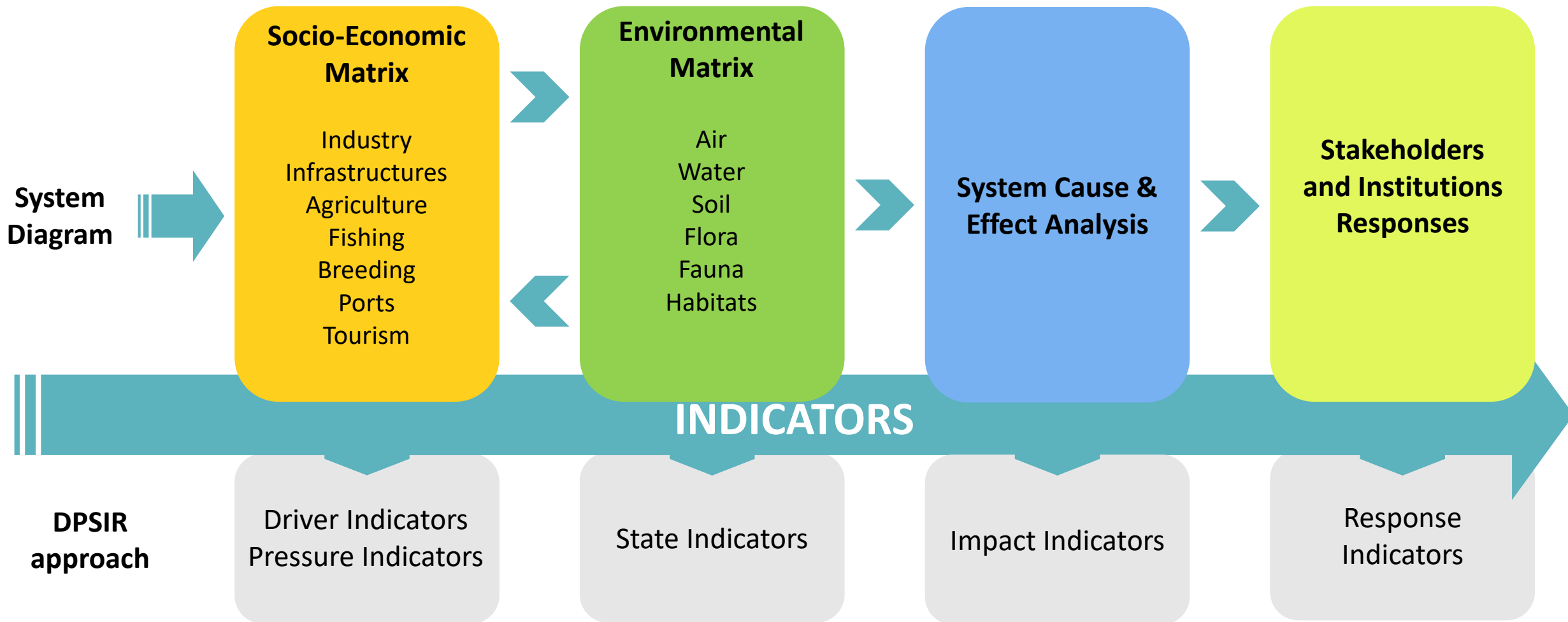
Phase 2: EBM Technical Work - Indicators



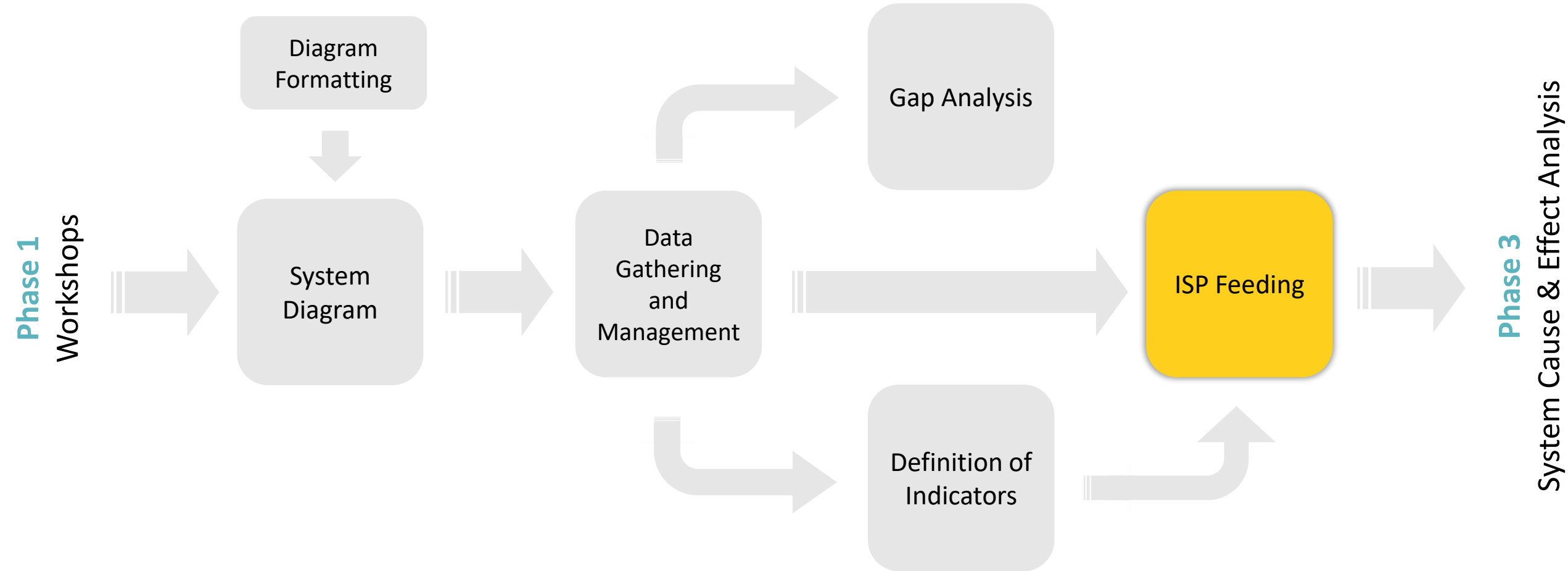
Adoption of the **DPSIR framework** in which the indicators are divided in 5 classes:



Phase 2: EBM Technical Work - Indicators



Phase 2: EBM Technical Work – ISP Feeding



Conclusions and Further Development

RESULTS

Active stakeholder involvement
Technical Work

ONGOING

System Cause & Effect Analysis





THANK YOU!

