



# Mediterranean Forum For Applied Ecosystem-Based Management



## PROGES ISP Experience and Perspective

Matteo Onori

UNDP – Amici della Terra



# EBM challenges

At the beginning of the project, implementing EBM approach seemed a **very difficult** goal because many things had to be taken into account:

## Holistic Approach

Ecosystem cannot be explained solely through its individual components, but as a **whole set of components**, including its biological, physical, chemical, and human components, in **continuous interaction**.

## Stakeholder Engagement

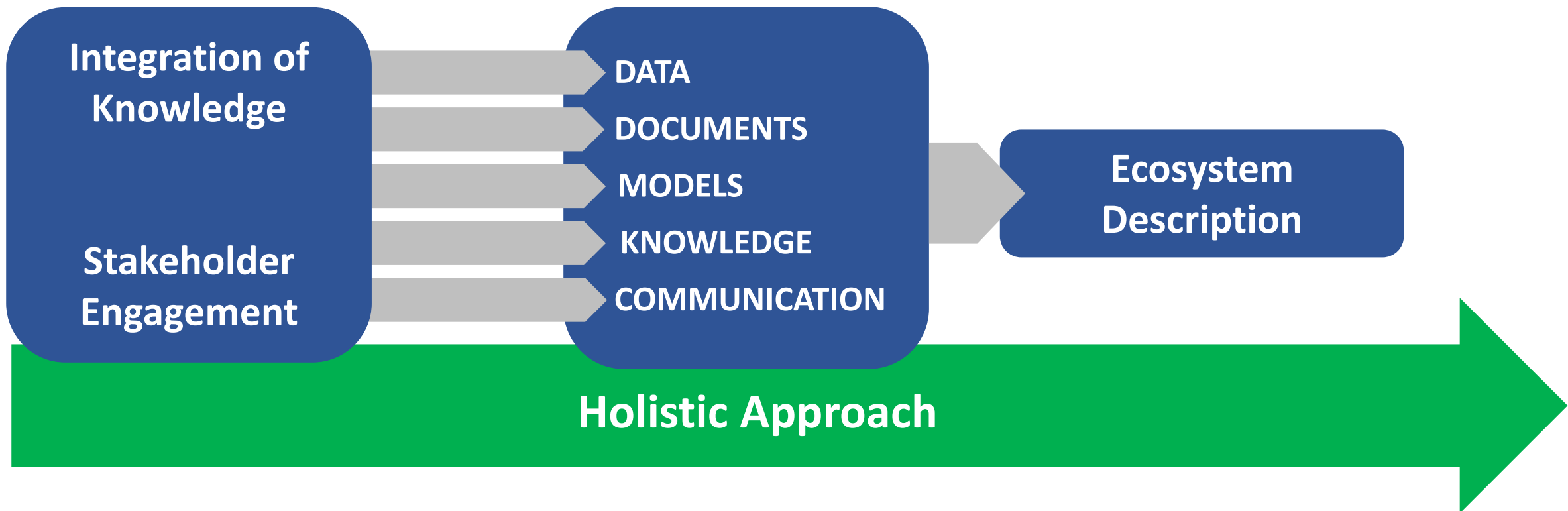
EBM encourages the involvement of diverse **stakeholders**, including local communities, scientists, and policymakers. Involving many stakeholders and reaching a **shared understanding** of the ecosystem was very challenging.

## Integration of Knowledge

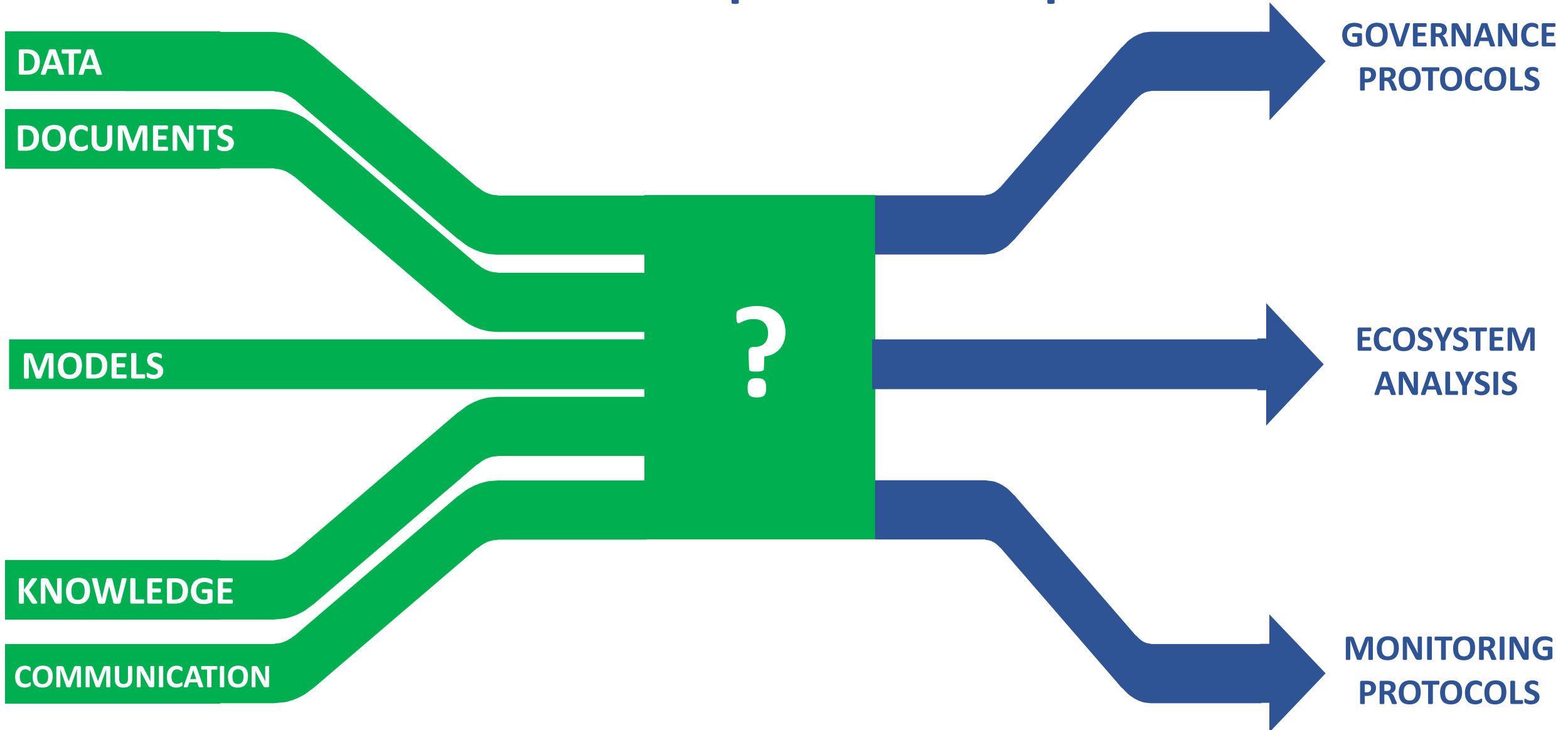
EBM integrates **different types of knowledge**, not just quantitative nor qualitative data. This combination of knowledge sources provides a more comprehensive understanding of ecosystem dynamics. It is often difficult to have access to **continuous, time-series data**.

# Ecosystem Description

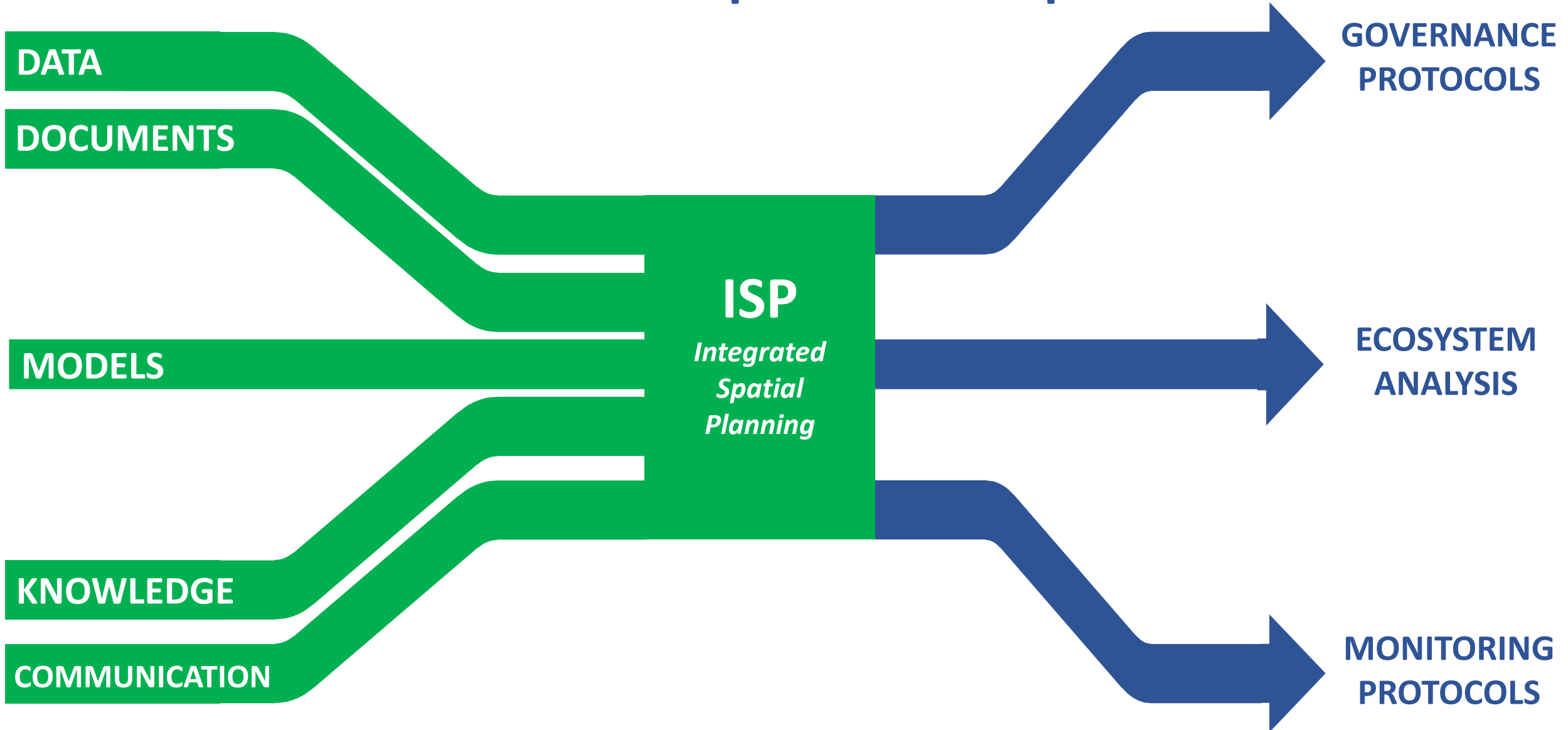
The EBM approach emphasizes the collaborative engagement of **stakeholders** and the integration of diverse **knowledge** sources. From this **sources many products** can be used to describe ecosystem.



# MED4EBM Inputs and Outputs



# MED4EBM Inputs and Outputs



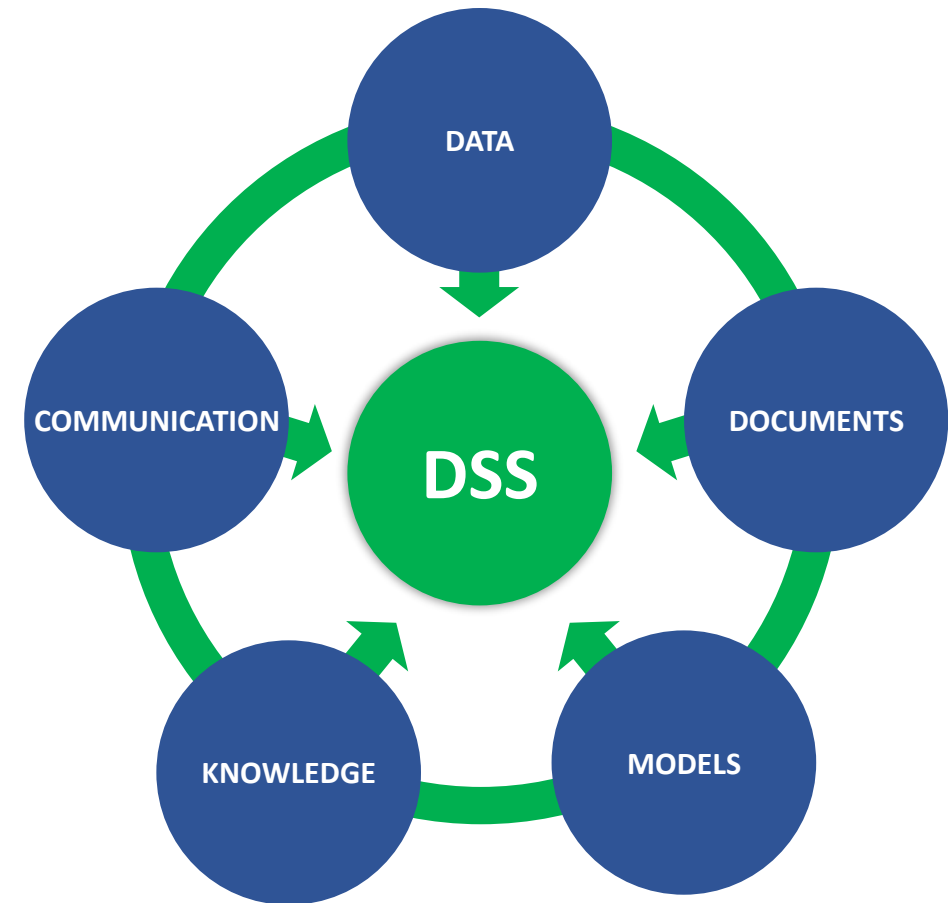
# Importance of having a DSS

DSS

It is a **Decision Support System**, a software that keeps track and processes large amounts of data:

- Automatically
- Coming from different sources
- On different topics
- Of various types

Information of **all environmental components** are available in just one software and this helps the institutions in having a more **general and complete view** on the ecosystem dynamics and with their **decision-making processes**.



# Role of ISP in MED4EBM

DATA

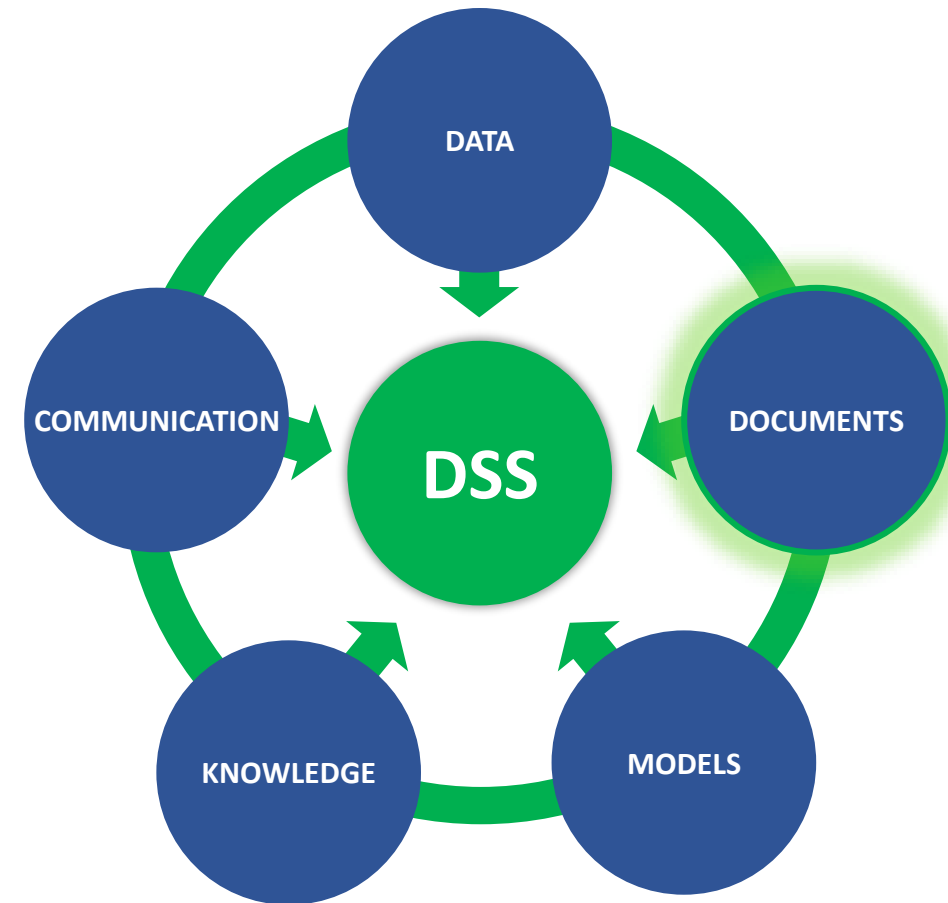
- **Quantitative data** includes a wide range of information such as **numeric data** (ecological observation, species population, human activities) or **geographical data**.
- In MED4EBM, data collection procedure is in collaboration with the **stakeholders** that should share their datasets.
- Proper collection, storage, and visualization of data are crucial for generating accurate outputs and facilitate **ecosystem management decisions**.



# Role of ISP in MED4EBM

## DOCUMENTS

- EBM approach is based not only on quantitative data, but also on a wide range of **qualitative information**.
- The ISP serves as a **platform to organize** and access these documents, that are stored in a specific repository called “DMT”.
- These documents, such as **scientific articles and reports**, provide a more complete EBM management approach in order to improve the evaluation strategies of the ecosystem.

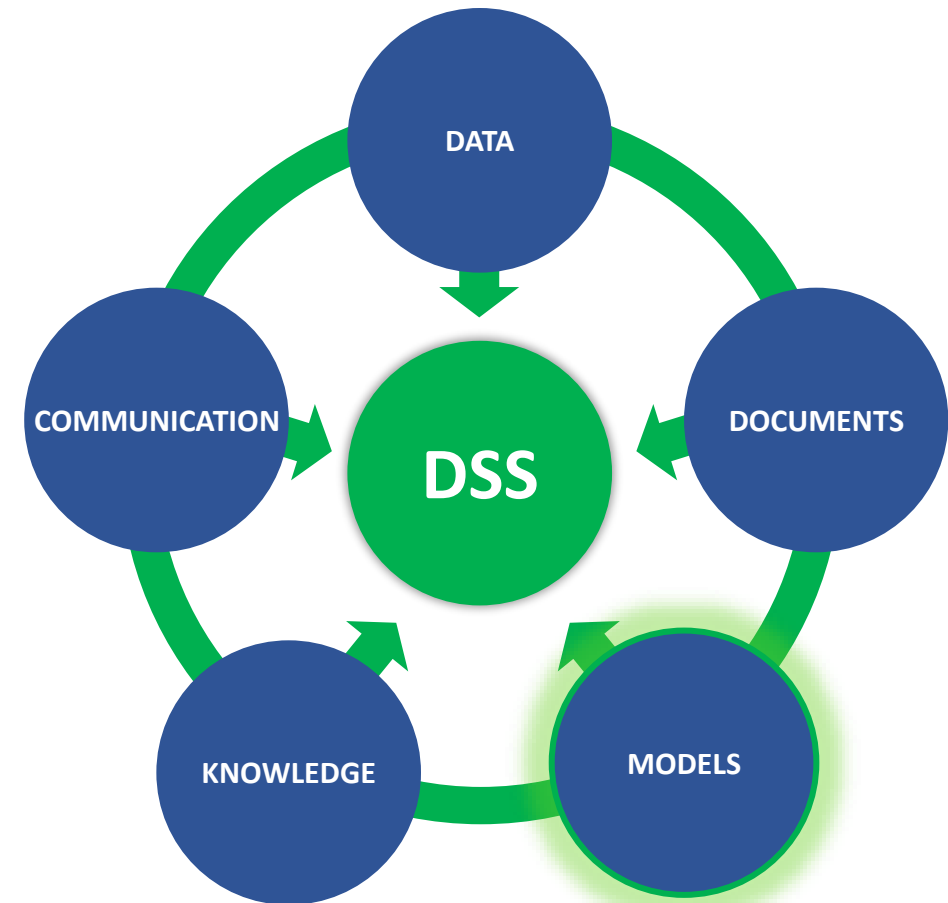




# Role of ISP in MED4EBM

## MODELS

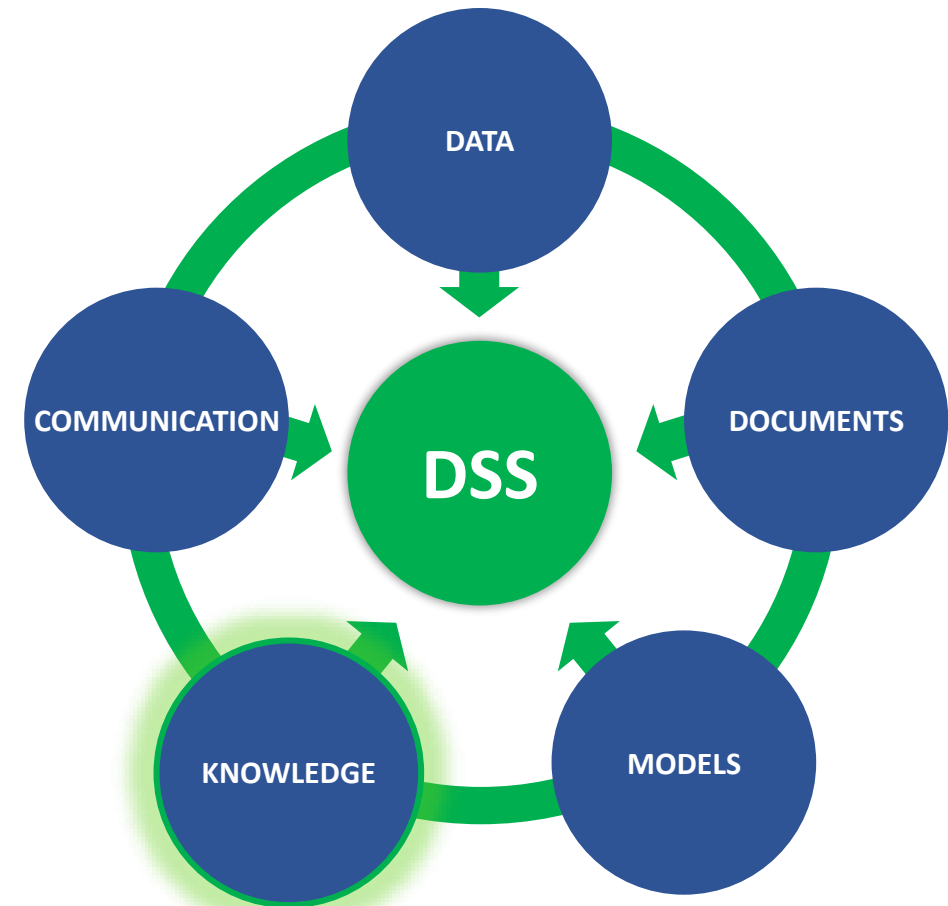
- Models within an EBM-DSS are tools that simulate ecosystem processes, interactions, and responses to different management scenarios.
- ISP is a software that **automatically generates charts and maps to visualize data**, previously uploaded into the system.
- It is suitable for local **authorities and institutions**, and so by decision makers who are not necessarily experts in data or GIS analysis.



# Role of ISP in MED4EBM

## KNOWLEDGE

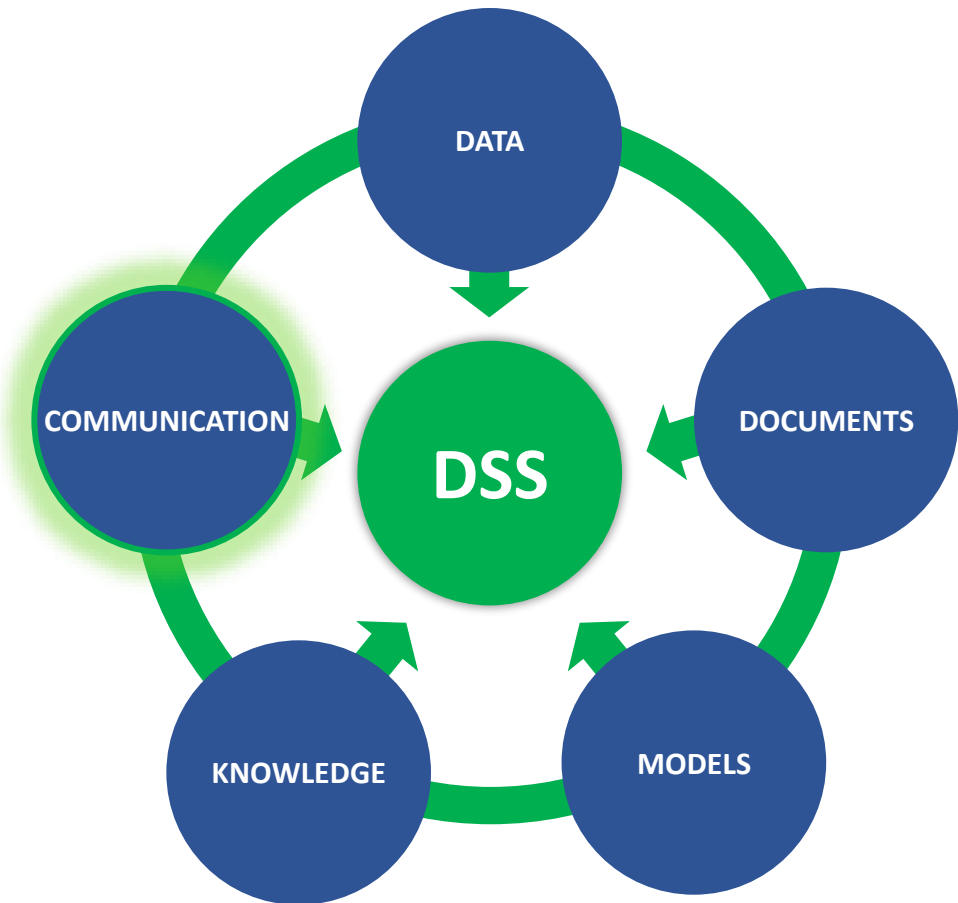
- Knowledge includes not only scientific knowledge about the ecosystem but also the **local ecological and cultural knowledge** held by indigenous **communities and stakeholders**.
- Integrating traditional knowledge with scientific findings **enhances the understanding of ecosystem** dynamics and potential impacts of management actions.
- The core part of ISP is a **system diagram**, the set of socioeconomic and environmental components that have been identified by stakeholders of the local community based on their **knowledge of the area**.



# Role of ISP in MED4EBM

## COMMUNICATION

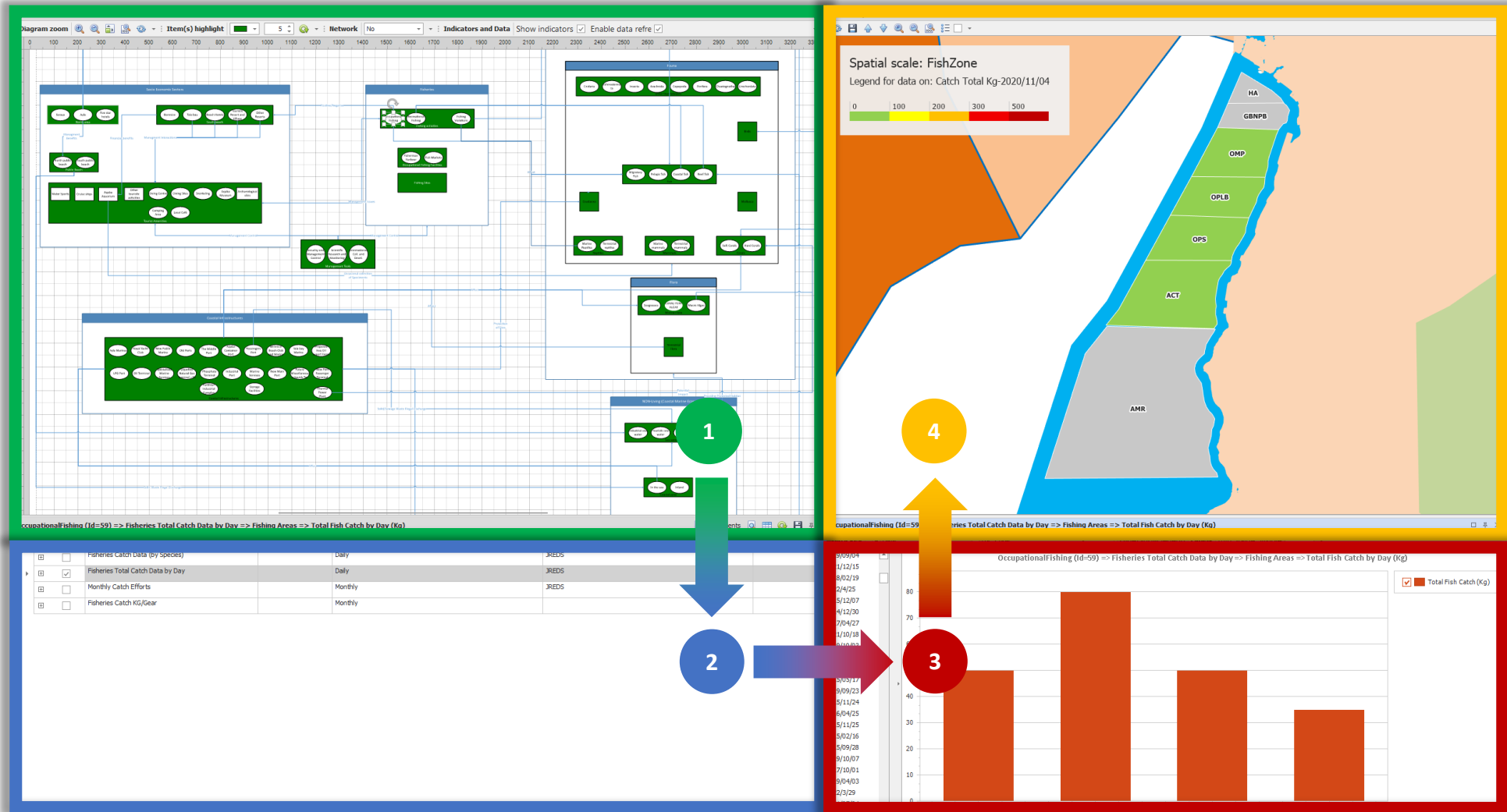
- Communication plays a key role in the EBM approach and it has to be **fast, effective, immediate** in order to adopt timely solutions to safeguard the ecosystem.
- **ISP facilitates the sharing** of research findings, ecological data, management strategies, and policy considerations which are available in just one software.
- Effective communication ensures that all parties are informed, aligned, and working collaboratively towards sustainable ecosystem management.



# Importance of a User-Friendly System

## System Diagram

## GIS Map



## Indicators

## Charts

# End of MED4EBM Final Assessment

## What ISP is

- Software used in MED4EBM as a support for the implementation for **Ecosystem Based-Management** (EBM) of the target areas of four Project Partners (Italy, Jordan, Tunisia, Lebanon).
- **Decision Support System** (DSS), a tool that automatically keeps track and processes large amounts of data on different topics to help institutions with their decision-making processes.
- **Automatic viewer** of spatial distribution and time trends (through maps, tables, charts) once data is uploaded into the system.

## What ISP is not

- It is not a GIS software as the purpose of ISP, rather than analyze spatial data such as raster and vectors, is just to **help visualizing the data** through simple and clear maps (which it automatically creates).
- It is **not a data analysis software** and it is not possible to work on data or perform queries. These operations can still be performed with Excel or SQL language before uploading the data into ISP, which is a visualizer of data.
- It is **not a software that automatically returns answers** for better Ecosystem Based-Management. ISP **supports** EBM management through the participative and shared reading of data by experts of various fields.

# End of MED4EBM Final Assessment

The system proved its **flexibility to adapt** to four different project areas considering:



This opens up the possibility of applying the same methodology in **new project areas**.

