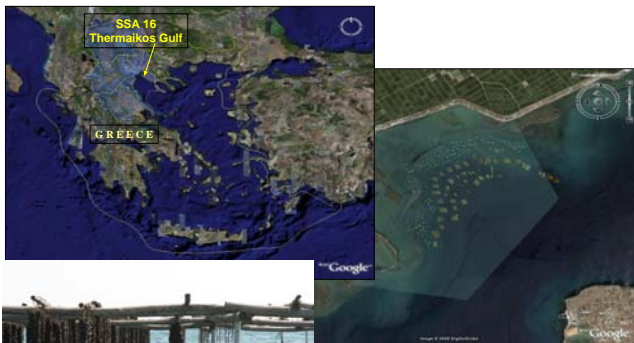


Location of the SS

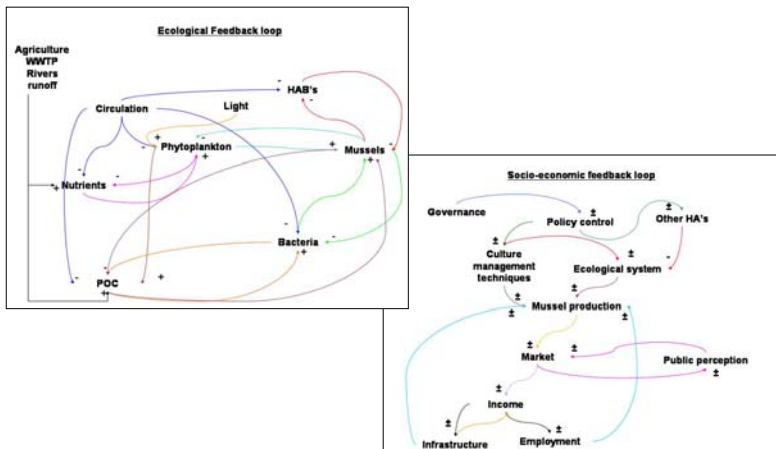


The sea area of Chalastra is located NW of the inner Thermaikos Gulf. The city of Thessaloniki is at the NE side of the area and the estuaries of Axios-Loudias-Aliakmonas Rivers are at the NW. The surface of the sea area where the mussel farms are located is approximately 1,350,000 m², with minimum depth of 4m and maximum of 20m. At the land boundary of the system, multiple cultivations are located and the channel of the WWTP of western Thessaloniki is located 4.8 km from the area. Due to the systems' water circulation the agricultural and urban run-offs and the output of the WWTP are affecting the area, while most of the time the inputs from the estuary do not affect it. Approximately 200 mussel farms are located in the area, 150 of them on rafts and 50 long-line culture systems.

Issue resolution

The Policy Issue "*Sustainable management of mussel culture at the area of Chalastra, Thermaikos bay*" was selected from the SSA-16 team because of the great importance of mussel activity in the area. The mussel farmers are a small but important group of stakeholders, facing many pressures, due to the modification of the local environment. This modification is caused by other human activities (mostly agriculture & urban development) as well as by poor management practices concerning the current mussel farming activities. The decline of mussel production leads to multiple socio-economic impacts, like income decrease, unemployment, illegal activities & negative advertisement of the products to local and international markets. The Issue is specific, concerning a certain area of interest in which the System Application Framework proposed by SPICOSA can be applied with greater accuracy than in the case of the whole Thermaikos Gulf area, wherein the entire area is very wide and many socio-economic factors are generating several environmental problems.

Components and interactions



Stakeholders approach

The SSA-16 team decided that the previous experience with the stakeholders of the study area was sufficient in order to have an accurate decision concerning the Policy Issue.

A meeting gathering all the representatives of stakeholders involved in the area of interest was avoided, because previous experience showed multiple conflicts between those groups. Alternatively, smaller meetings have been held with representatives of Decision Makers, in the form of personal interviews and organization meetings. During these meetings, long conversations were held, prioritizing the area's main problems and further discussing the possible risks and the alternative management scenarios.

At this point the first meeting among the "stakeholder participants group" is being organized. The structure of this group involves representatives of Stakeholders and Decision Makers directly linked to the Policy Issue, which are the following:

- The Mussel Farmers Associations of Chalastra
- The Authority for the Management of the Protection Area of Axios – Loudias – Aliakmonas estuaries
- The Municipality of Chalastra
- The Prefecture of Thessaloniki
- The Region of Central Macedonia
- The Directorate of Environment & Land Planning of the Region of Central Macedonia
- The Organization for the Management of Thermaikos Gulf – Ministry of Macedonia & Thrace
- The Corporation of Water Supply and Drainage – Thessaloniki
- The Ministry of Environment and Land Planning, Thessaloniki office
- The Organisation of Master Planning & Environmental Protection of Thessaloniki
- Some local groups with ecological interests

Economic dimension

Scenarios

In order to create a tool that will support the decision making process for the stakeholders, it was important to discuss with them and set alternative management scenarios that will be tested through the simulation model of the system. After multiple considerations and discussions during the private interviews the following options were prioritized:

- ✓ Alteration of the management practices to the mussel farms. Larger distances between the farms, different orientation regarding the best water circulation inside the culture area, modification of the position of cultivation ropes inside every individual farm, alteration of the quantities of mussels that are cultivated in order to determine how much the different circulation patterns influence the growth rates of the cultivated organisms.
- ✓ The increase and decrease of nutrients and organic matter inputs into the sea area due to alterations in policies regarding other HA's (WWTP and agriculture). Major variation of these inputs can cause significant changes in the phytoplankton biomass and respectively in the growth of the mussels.
- ✓ A combination of the aforementioned scenarios.