

LEarning and action alliances for **NexuS** **E**nvironments
in an uncertain future

LENSES

WP2

Recap of the 2nd Pinios pilot (Greece) Technical Workshop

Edited by: SWRI



Project coordinator



Project Website

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Recap of the 2nd Pinios pilot (Greece) Technical Workshop



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02			

Recap of the 2nd Pinios pilot (Greece) Technical Workshop

1. Workshop Organization

The 2nd Technical Workshop of the LENSES project regarding the Pinios pilot area took place on the 5th of May, 2023, in "Chrisalida" cultural center of Metaxochori – Larissa, Greece. The preparation of the workshop constituted a time-consuming and demanding process and by itself required a lot of effort and resources to successfully implement.

The main scopes of the 2nd Technical Workshop for the Pinios pilot area include the following:

- ✓ Reporting of the capitalization of stakeholders' input.
- ✓ Identify goals based on needs/problems for achieving security of the Water-Food-Ecosystem system, in Agia watershed and Pinios Delta.
- ✓ Propose specific measures (focusing on Nature Based Solutions) to meet the goals.

The preparation phase of the workshop started about 1 month before the event. Personal invitations via email were sent to all stakeholders, followed by personal phone calls to ensure whether the emails were received, and investigate the availability of each stakeholder. In parallel, the agenda of the workshop was continuously developed considering all the different sessions that had to be included to ensure the success of the workshop. The appropriate selection of the workshop's sessions was significantly based on the activities that were carried out during the Fourth Progress Meeting of the LENSES project that took place on 12th – 16th March, 2023, in Jordan and Israel, and then the agenda was partially reformed according to the useful recommendations of project partners during the online LAAs' meetings. Very important was also the contribution of previous workshops organized by SWRI team, in the context of REXUS and LENSES projects, that provided significant experiences from similar processes. The final version of the workshop's agenda is presented in Figure 1.1.



AGENDA OF THE 2nd TECHNICAL WORKSHOP OF THE LENSES PROJECT

- Goals:**
- ✓ Reporting of the capitalization of stakeholders' input.
 - ✓ Identify goals based on needs/problems for achieving security of the Water-Food-Ecosystem system, in Agia watershed and Pinios Delta.
 - ✓ Propose specific measures (Nature Based Solutions) to meet the goals.



Friday 5th May 2023, 09:00-13:00 (EET), "Chrisalida" Cultural Center,
Metaxochori 28, 40003 Agia of Larissa-GR

- 08:30 – 09:00 Registration of participants
- 09:00 – 09:10 Opening of the 2nd technical workshop of LENSES - Welcoming-Meeting organization information – Progress of LENSES project
Presented by Dr. Andreas Panagopoulos, HAO/Soil and Water Resources Institute (SWRI)
- 09:10 – 09:45 Recap of the outcomes from the 1st technical workshop – Presentation of the project's progress utilizing stakeholders' contribution
Presented by Dr. Vassilios Pisinaras, HAO/Soil and Water Resources Institute (SWRI)
- 09:45 – 09:50 Questions - Comments by stakeholders on the presented outcomes
Moderated by Dr. Andreas Panagopoulos, HAO/Soil and Water Resources Institute (SWRI)
- 09:50 – 10:15 Design future: headlines in 2030
Moderated by Ms Anna Chatzi, HAO/Soil and Water Resources Institute (SWRI)



- 10:15 – 10:30 **Coffee Break**
- 10:30 – 11:00 **Review determined goals to meet Pinios pilot areas' water-food-ecosystems goals**
- Moderated by Andreas Panagopoulos, Vassilios Pisinaras, Dimitrios Malamataris, Anna Chatzi, Konstantinos Babakos, HAO/Soil and Water Resources Institute (SWRI)*
- 11:00 – 11:15 **Nature Based Solutions – Description and examples**
- Presented by Dr. Dimitrios Malamataris, HAO/Soil and Water Resources Institute (SWRI)*
- 11:15 – 12:30 **Specific measures proposal to meet Pinios pilot areas' water-food-ecosystems goals**
- Moderated by Andreas Panagopoulos, Vassilios Pisinaras, Dimitrios Malamataris, Anna Chatzi, Konstantinos Babakos, HAO/Soil and Water Resources Institute (SWRI)*
- 12:45 – 13:00 **Comments, Conclusions and Next Stages**
- Moderated by Andreas Panagopoulos, HAO/Soil and Water Resources Institute (SWRI)*

Organization: Hellenic Agricultural Organization "DEMETER" Soil and Water Resources Institute (SWRI)

The LENSES (Learning and action alliances for Nexus environments in an uncertain future) project has received funding from the PRIMA programme supported by the European Union under Grant Agreement No [2041] [Call 2020 Section 1 Nexus IA].

Figure 1.1. Agenda of the 2nd Technical Workshop of Pinios pilot area.

After the finalization of the agenda and during the last week prior the workshop's deployment, a personal reminder via both emails and phone calls was offered to all stakeholders along with the final version of the agenda.

Regarding the selection of the venue, 1 visit to "Chrisalida" cultural center was performed to resolve potential technical issues and ensure a trouble free event. The venue was selected as the most suitable facility since most of the stakeholders are local residents and would not be required to travel far and in addition, Metaxochori belongs to Agia's watershed, one of the two sub-areas of Pinios pilot. Furthermore, the 1st Technical Workshop of the Pinios pilot area in November 2022 was held in the same facilities and the impressions obtained were quite positive. The premise used during the 2nd Workshop, is depicted in Figure 1.2.



Figure 1.2. Facility used during the 2nd Workshop.

Regarding the stakeholders' costs arising from their participation in the workshop, it should be noted that all the expenses born for commuting from a distant city were covered by the project, at least for stakeholders of the public sector.

2. Workshop Implementation

2.1. Registration

Registration forms had already been prepared and pre-filled in with the names and affiliations of the stakeholders who intended to participate to the workshop. About 15 stakeholders participated to the workshop, apart from the members of SWRI Team.

2.2. Opening

Dr. Andreas Panagopoulos, Research Director of Soil and Water Resources Institute of Hellenic Agricultural Organization "DEMETER" opened the workshop and welcomed the participants (Figure 2.1). All the partners and pilot areas of LENSES project were presented with a focus on Pinios pilot. After that, the main goals of the workshop were presented by Dr. Andreas Panagopoulos, and also the detailed program of the workshop.



Figure 2.1. Opening of the workshop.

2.3. Progress & Outcomes

Dr. Dimitrios Malamataris, Research Associate of Soil and Water Resources Institute of Hellenic Agricultural Organization "DEMETER" offered a recap of the outcomes from the 1st Technical workshop in order to update the new entries and give a reminder to the older ones (Figure 2.2). The three challenges of Pinios pilot area that were identified through the LAA activities so far were presented, accompanied by their corresponding obstacles/inhibitors, risks/ impacts and strengths/opportunities. These three categories emerged with the valuable help of stakeholders during the 1st workshop.



Figure 2.2. Recap of the outcomes from the 1st technical workshop – Presentation of the project's progress utilizing stakeholders' contribution.

The three main challenges that were identified along with their related obstacles/inhibitors, risks/impacts and strengths/opportunities following the processing of the results of the workshop 1st and the tabulation of the yielded data based are as follows (Table 2.1a-c):

Table 2.1a. Challenge 1, and related problems and indicators.

CHALLENGE 1: Achieving and maintaining sufficient quantity and good quality of water resources	
Problems	
Spatial and temporal variation of the groundwater level in the Agia watershed	
Locally high nitrate concentrations in groundwater	

Lack of infrastructure projects (irrigation networks, reservoirs)
Obstacles, Inhibitors
Lack of efficient water consumption audit in the agricultural sector, lack of GW control and limited monitoring
Illegal behaviors (for irrigation) and sense of water ownership at farm level
Insufficient land planning and management, absence of a specialized regional/rural development plan
Risks, Impacts
Desertification of agricultural areas
Reduction of agricultural production
Strengths/Opportunities
High availability of groundwater
Plenty of studies have been carried out regarding Pinios pilot for the future
Knowledge of quantity of surface and ground water
Full monitoring of data on land and air
Sustainability of the region
Indicators
Groundwater availability (level, volume) [in relation to the highest rainfall]
Surface water use, by category of use
Groundwater use, by category of use

Table 2.1b. Challenge 2, and related problems and indicators.

CHALLENGE 2: Sustainability of the agricultural sector
Problems
Increased production cost
Irrational use of pesticides and other agricultural supplies
Limiting available markets for agricultural exports
Obstacles, Inhibitors
Lack of support and guidance at farming (also for financial tools)
Inefficient subsidies policy (e.g. for young farmers)
Land fragmentation
Risks, Impacts
Unsustainability & abandonment of agricultural sector
Increase in youth unemployment
Concentration of crops to few people
Strengths/Opportunities
High-quality products
Geographical position
Full access to soil and crop data
Implementation of agroecological practices
Indicators
Cost / Profit of agricultural production per unit area
Yield per crop and unit area
Irrigation costs (water, energy, environmental fee, maintenance) per m ³ or acre

Table 2.1c. Challenge 3, and related problems and indicators.

CHALLENGE 3: Protection and restoration of ecosystems	
Problems	
Preservation of the ecological flow of the Pinios River	
High pressures on the riparian habitats of the Pinios River	
Irrational management of used agricultural packages	
Obstacles, Inhibitors	
Lack of EU and national funding	
Bureaucracy and fragmentation of responsibilities, limited coordination	
Overlapping responsibilities	
Risks, Impacts	
Destruction of the Delta and salinization of soils from the reduction of the ecological flow of the Pinios river	
Ecological destruction of water, birds, soil and food/loss of species	
Risk of interrupted river flow/supply	
Water quality degradation (groundwater and surface)	
Strengths/Opportunities	
Important areas belong to NATURA	
Good water/environmental condition	
Rich biodiversity	
Existing knowledge about ecosystems and biodiversity	
Indicators	
Ecological flow of the Pinios river	
Conservation level of flora and fauna of riparian habitats	
Continuous monitoring of Tempi Valley sources and taking appropriate measures	
Measurement of carcinogens in areas with high pesticide/insecticide use	

After that, Dr. Dimitrios Malamataris presented the progress and outcomes of the LENSES project so far, regarding Pinios Pilot area, utilizing stakeholders' contribution, including presentation of LAA activities; presentation of preliminary results of PSDM; presentation of preliminary results of SWAT and SEAWAT models in Agia watershed and Pinios' Delta; presentation of ecosystem services and business model; LENSES Window and dissemination of results to citizens and scientists.

The progress so far in terms of Pinios LAA participatory activities include:

- ✓ Stakeholders' mapping: Definition of stakeholders' engagement, mapping and involvement pathway.
- ✓ Stakeholders' interviews (12/2021 – 3/2022): Identification of needs and priorities per sector; Identification of sectoral needs/problems and endogenous/exogenous factors; Cross-sectoral interdependencies and conflicts).
- ✓ Analysis of data and results: Contribution from the scientific partners of the project; Analysis of interviews and results which were sent to related partners.
- ✓ 1st Workshop (21/11/2022): Final determination/confirmation of challenges, problems, obstacles, strengths-opportunities and indicators; Collaborative identification of cross-sectoral dependencies; Initial visioning.
- ✓ Seminar to the students of the "Averofios" vocational agricultural school of Larissa (18/5/2022): Students/ perspective young farmers were introduced to Pinios Hydrologic Observatory and improved environmental awareness of future farmers.

- ✓ Analysis of data and results of first workshop: Analysis of activities and results which were sent both to partners and stakeholders (translated).
- ✓ Pinios Pilot Field trip (5-6/9/2022): Two-days common REXUS-LENSES field trip in Pinios pilot basin (and its two sub-basins of Agia and Pinios Delta).
- ✓ Foreign students' trip - ABC/J group (24-25/9/2022): Students were informed of the basin's stresses, challenges and other characteristics and improved the holistic approach of LENSES in the rational of nexus doing.
- ✓ 2nd seminar to the students of the "Averofios" vocational agricultural school of Larissa (30/3/2023, 6/4/2023): Students/ perspective young farmers were introduced to Pinios Hydrologic Observatory and improved environmental awareness of future farmers.
- ✓ 2nd Technical Workshop (5/5/2023): Reporting of the capitalization of stakeholders' input. Identify goals based on needs/problems for achieving security of the Water-Food-Ecosystem system, in Agia watershed and Pinios Delta. Propose specific measures (Nature Based Solutions) to meet the goals.

The Participatory System Dynamics Modeling that was developed by the Water Research Institute of the National Research Council of Italy was also presented as depicted in Figure 2.3 (Agriculture/Land sector).

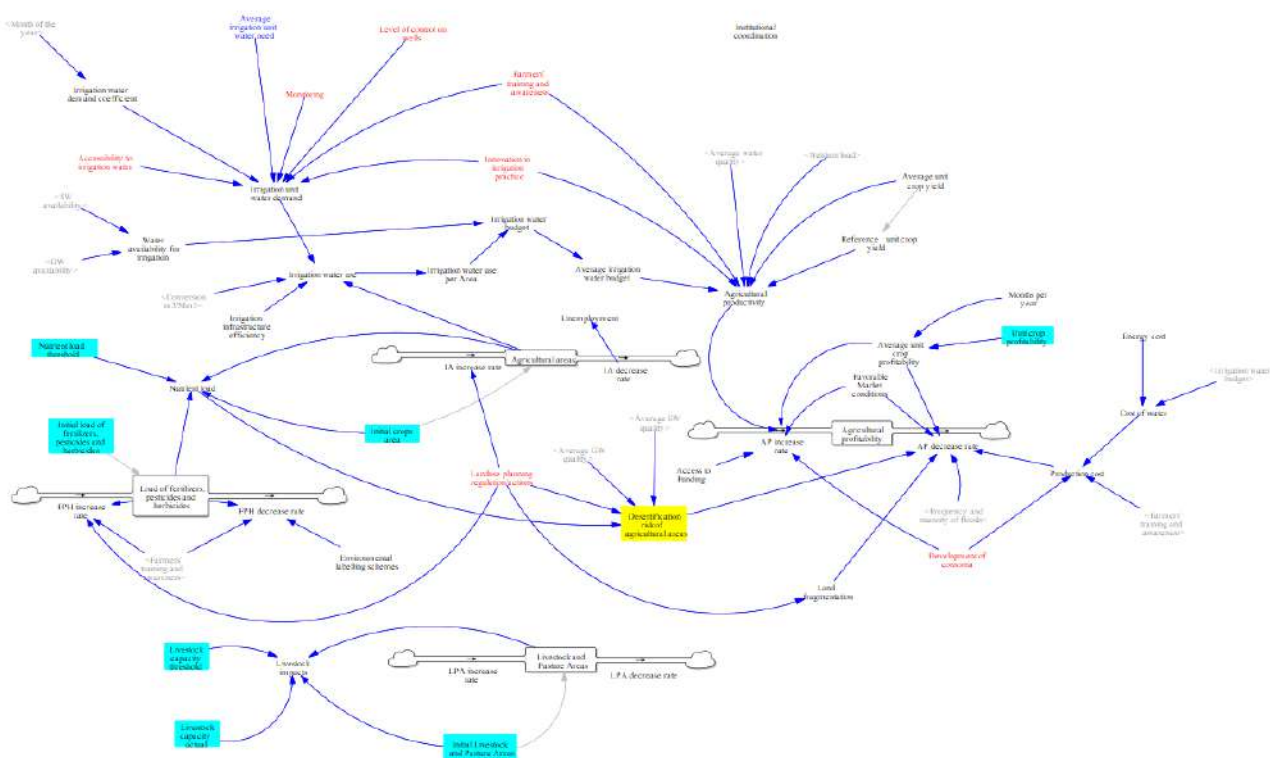


Figure 2.3. Schematic of PSDM under development for the Pinios pilot area.

Finally, some other actions carried out were mentioned such as for example the visit to the pilot areas with citizens and scientists, the strengthening of cooperation with local bodies, the presentation of Pinios Pilot area to students/future farmers and some scientific publications.

2.4. Comments by Stakeholders

Stakeholders made several comments regarding the presented outcomes (Figure 2.4). This was an exercise to motivate and trigger active participation of the stakeholders, towards the core activities of the workshop and also to collect feedback on the presented work. It proved quite essential since it enabled registering disagreements in a few occasions, between the LENSES team understanding of the stakeholders' input on the one hand, and declaring/emphasizing on presented findings that have not been openly presented in similar a similar manner in the past.

It was quite interesting to see the participation of many people who in previous interactions with them seemed more reserved and had difficulty expressing their opinions comfortably, thus it appears a reasonable level of trust has been established. A pleasant surprise was the fact that stakeholders despite having different approaches were always eager to accept diversified statements and opinions and willing to discuss and find common ground, not to disagree and argue. Many of the attendees expressed an interest in obtaining, but also in offering some data and information, thus practically showed their willingness to actively contribute to the elaboration of the project once again.

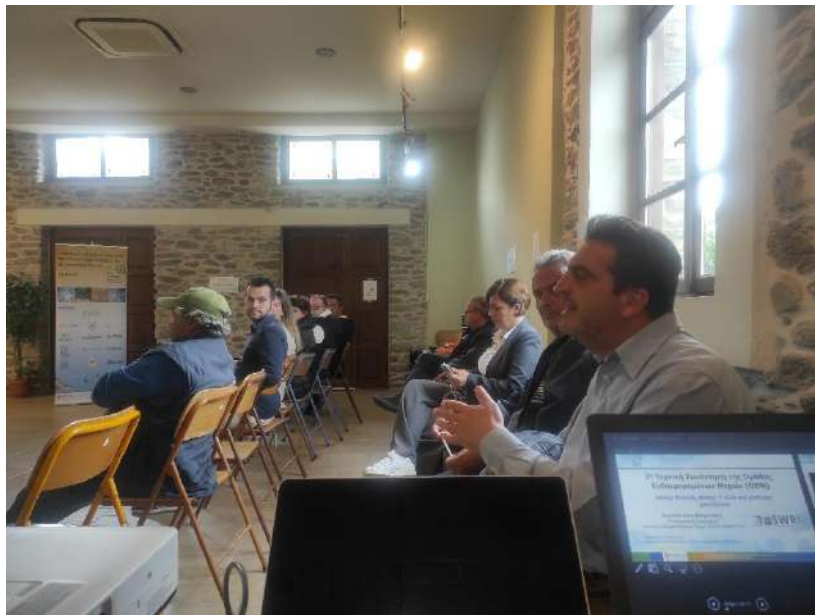


Figure 2.4. Comments by stakeholders.

2.5. Visioning of Pinios Delta and Agia's watershed

Before the coffee break, stakeholders participated in an activity moderated by Anna Chatzi, Research Associate of Soil and Water Resources Institute of Hellenic Agricultural Organization "DEMETER", in which they described with few words the future condition they desire for their area (Figure 2.5). To motivate them, SWRI team started with the pessimistic side and asked them to imagine how the pilot areas would be like without their contribution and mobilization, i.e. a business as usual approach with no interventions (Figure 2.6). Then, continued with the bright/optimistic side and they proposed keywords reflecting the future of the Pinios Delta and the Agia sub-basin following resolution of the identified challenges through the interventions proposed by LENSES project (Figure 2.7). The MentiMeter platform was utilized for the above processes.



Figure 2.5. Visioning exercise for Pinios Delta and Agia's watershed.

The aim of the exercise was to project through headlines their vision of the positive footprint of this project. It turned out to be an enjoyable activity that engaged people and challenged them to use their imagination to capture an optimistic future.



Figure 2.6. Pessimistic vision for Pinios pilot area.

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Figure 2.7. Optimistic vision for Pinios pilot area.

2.6. Stakeholders' Working Group: Part I

Regarding each of the three main challenges, stakeholders were requested to fill-in three different specific posters that were compiled, one for each challenge. On the posters were pre-printed the goals that constituted the inverse problems of every challenge, as these had been identified from previous activities. This activity aimed to the agreement – identification of issues of the existing goals, to the regionalization of them and finally to the additions of accidental omissions. In Tables 2.2a-c, follow the goals, additions, and comments – conclusions for each of the three challenges.

There was also a limited time for stakeholders to fill-in each poster. The whole procedure was managed by facilitators. Facilitation was enabled through careful consultation amongst the SWRI team members well in advance of the workshop, to ensure common understanding of the targets of the workshop is achieved, along with the tools, approaches and policies to be deployed in order to achieve them. Supporting maps of each NEXUS sector were also available. Stakeholders provided their answers using posters of different colours, each one reflecting a particular NEXUS sector; they were asked to use the most relevant WEF Nexus sector that is associated with their main economic activity, i.e. blue for “Water”, yellow for “Agricultural production/Land” and pink for “Environment”. It should be noted that a blank sticker meant full agreement on the respective goal. A sample poster along with the way that was filled-in is presented in Table 2.3 while the whole procedure is presented in Figure 2.8.

Table 2.2a. Goals, additions and comments – conclusions related to Challenge 1.

Challenge 1: Achieving and maintaining sufficient quantity and good quality of water resources	
Goals	Comments - Conclusions
Reduction of spatial and temporal variation of groundwater level in Agia sub-basin	Agreement of stakeholders on this goal, mainly “agricultural production/land” and “environment/ecosystems” stakeholders and not so much “water” stakeholders.
Increasing the availability of water resources covering irrigation needs during droughts in the Pinios Delta	Strong agreement of stakeholders on this goal, mainly “agricultural production/land” and “water” stakeholders and not so much “environment/ecosystems” stakeholders. Probably this is because the environment was not well represented in the workshop.
Improving the efficiency of water distribution and application systems	Agreement of stakeholders on this goal, mainly “agricultural production/land” and “water” stakeholders and not so much “environment/ecosystems” stakeholders. Probably this is because the environment was not well represented in the workshop.
Restoration of salinisation of groundwater in the Pinios Delta	Strong agreement of stakeholders on this goal, mainly “agricultural production/land” and “water” stakeholders and not so much “environment/ecosystems” stakeholders. Probably this is because the environment was not well represented in the workshop.
Restoration of locally high nitrate concentrations in groundwater	Agreement of stakeholders on this goal, mainly “agricultural production/land” and “water” stakeholders and not so much “environment/ecosystems” stakeholders. Probably this is because the environment was not well represented in the workshop.
Increasing the availability of surface water	This goal was added by a stakeholder during the workshop and thus not commented by the rest of the stakeholders.

Table 2.2b. Goals, additions, and comments – conclusions related to Challenge 2.

Challenge 2: Sustainability of the agricultural sector	
Goals	Comments - Conclusions
Reduction of production cost	Agreement of stakeholders on this goal, mainly “agricultural production/land” and “water” stakeholders and not so much “environment/ecosystems” stakeholders. Probably this is because the environment was not well represented in the workshop.
Rational use of pesticides and other agricultural supplies	Agreement of stakeholders on this goal, mainly “agricultural production/land” and “water” stakeholders and not so much “environment/ecosystems” stakeholders. Probably this is because the environment was not well represented in the workshop.
Finding available markets for agricultural exports	Strong agreement of stakeholders on this goal, mainly “agricultural production/land” and “water” stakeholders and not so much “environment/ecosystems” stakeholders. Probably this is because the environment was not well represented in the workshop.
Maintenance of high agricultural productivity	Strong agreement of stakeholders on this goal, mainly “agricultural production/land” and “water” stakeholders and not so much “environment/ecosystems” stakeholders. Probably this is because the environment was not well represented in the workshop.

Reduction – Mitigation of crop sensitivity to drought in the Pinios Delta	Agreement of stakeholders on this goal, mainly “agricultural production/land” and “water” stakeholders and not so much “environment/ecosystems” stakeholders. Probably this is because the environment was not well represented in the workshop.
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Table 2.2c. Goals, additions, and comments – conclusions related to Challenge 3.

CHALLENGE 3: Protection and restoration of ecosystems	
Goals	Comments - Conclusions
Ensuring the environmental flow in Pinios River	Agreement of stakeholders on this goal, mainly “agricultural production/land” and “water” stakeholders and not so much “environment/ecosystems” stakeholders. Probably this is because the environment was not well represented in the workshop.
Restoration and conservation of the riparian habitats of the Pinios River	Agreement of stakeholders on this goal, mainly “agricultural production/land” and “water” stakeholders and not so much “environment/ecosystems” stakeholders. Probably this is because the environment was not well represented in the workshop.
Rational management of used agricultural packaging	Strong agreement of stakeholders on this goal, mainly “agricultural production/land sector” stakeholders and less “water” and “environment/ecosystems” stakeholders.
Rational use of pesticides, fertilizers, and other agricultural supplies	This goal was added by a stakeholder during the workshop and thus not commented by the rest of the stakeholders.

Table 2.3. Sample poster of the goals and the comments.

CHALLENGE 1: xxxxxxxx	
I SET GOALS (agreement by sector → region → new proposal)	I MAKE COMMENTS (agreement by sector → new proposal)
i.e Reduction of spatial and temporal variation of groundwater level in Agia watershed	<div style="border: 1px dashed black; padding: 5px;"> <p>Stakeholders:</p> <ul style="list-style-type: none"> ○ Agreed – identified issues of the existing goals, to the localization of them and finally to the additions of accidental omissions. </div> <div style="background-color: #00aaff; color: white; padding: 10px; text-align: center;"> <p>i.e. (blank post-it / total agreement)</p> </div>
i.e. Improving the efficiency of water distribution and application systems	<div style="border: 1px dashed black; padding: 5px;"> <p>Stakeholders:</p> <ul style="list-style-type: none"> ○ Agreed – identified issues of the existing goals, to the localization of them and finally to the additions of accidental omissions. ○ </div> <div style="background-color: #90ee90; padding: 10px; text-align: center;"> <p>i.e. This goal must be achieved by 2035</p> </div>





Figure 2.8. Stakeholders fill-in the posters regarding the goals for each challenge.

2.7. Nature Based Solutions – Description and examples.

Konstantinos Babakos, Research Associate of Soil and Water Resources Institute of the Hellenic Agricultural Organization "DEMETER", shortly presented the definition and the main targets of Nature Based Solutions. In this way stakeholders became familiar with this new concept (Figure 2.9). By presenting them some examples from around the world as well as from Greece, they managed to recognize that some of these solutions that are already implemented in their region. In particular, reference was made to the management of soil moisture through irrigation scheduling and to the management of weed and biomass, among the solutions implemented and examined in the context of LENSES project. This presentation also prepared the participants for the second activity of the workshop which concerned the proposal of measures, a very important part for the future of the project.



Figure 2.9. Presentation of Nature Based Solutions.

2.8. Stakeholders’ Working Group: Part II

Afterwards, the second half of the posters which was covered during the first activity, was exposed. During this session, stakeholders were requested to propose measures and regionalize them to meet Agia’s sub-basin and Pinios Delta WEF goals. Stakeholders examined each goal separately, and proposed various measures in an effort to secure them. A sample poster along with the way that was filled-in is presented in Table 2.4.

It was known that the completion of this session was particularly difficult as it is a time-consuming and tiring process. For this reason, stakeholders were asked to discuss and propose indicative measures for some goals but they were informed that after the workshop, they will be asked to fill out either an online questionnaire or participate in personal live meetings that will be organized for anyone who desires so, for the prioritization of measures for each of the three challenges. After gathering all the proposed measures, the prioritization of measures will be deduced based on 9 evaluation criteria. These 9 evaluation criteria were appointed from the results of an online questionnaire answered by the stakeholders and scientific partners sister project REXUS. The whole procedure is presented in Figure 2.10 while some of the produced posters are depicted in Figure 2.11.

Table 2.4. Sample poster of measures proposal and regionalization.

CHALLENGE 1: xxxxxxxx			
I SET GOALS (agreement by sector → region→ new proposal)	I MAKE COMMENTS	I PROPOSE MEASURES	REGION / %
(Results from 1 st session)	(Results from 1 st session)	i.e. Buffer zones	i.e. On both sides of Pinios river

(Results from 1 st session)	(Results from 1 st session)	i.e. Crop restructuring	i.e. On 70% of arable land



Figure 2.10. Stakeholders fill-in the posters regarding the measures for each challenge.



Figure 2.11. Posters developed by the Working Group.

This setup procedure proved to be very useful as it will help a lot in answering the online questionnaires that will be distributed in the coming weeks. Stakeholders clarified a lot through this productive discussion, and a lot of questions were answered about the whole process. The preliminary results of the proposed measures of each of the three challenges are presented in Tables 2.5a-c, after processing the results of the workshop.

Table 2.5a. Proposed measures related to Challenge 1.

Challenge 1: Achieving and maintaining sufficient quantity and good quality of water resources	
Goals	Proposed measures
Reduction of spatial and temporal variation of groundwater level in Agia watershed	<ul style="list-style-type: none"> Irrigation scheduling
Increasing the availability of water resources covering irrigation needs during droughts in the Pinios Delta	<ul style="list-style-type: none"> Crop restructuring - Switching to crops with less water requirements Construction of dams on the north side of Kissavos between Omolio and Stomio Construction of reservoirs for storage of winter runoff

Improving the efficiency of water distribution and application systems	<ul style="list-style-type: none"> • Construction of underground water distribution systems • Rational irrigation management - Irrigation scheduling
Restoration of salinitation of groundwater in the Pinios Delta	
Restoration of locally high nitrate concentrations in groundwater	<ul style="list-style-type: none"> • Rational use of pesticides and fertilizers - Switching to agroecological practices of weed and biomass management
Ensuring surface water	

Table 2.5b. Proposed measures related to Challenge 2.

Challenge 2: Sustainability of the agricultural sector	
Goals	Proposed measures
Reduction of production cost	<ul style="list-style-type: none"> • Irrigation scheduling • Creation of well-organized cooperatives and farmers' groups
Rational use of pesticides and other agricultural supplies	<ul style="list-style-type: none"> • Choice of sustainable production methods • Network of sensors for monitoring soil quality characteristics
Finding available markets for agricultural exports	<ul style="list-style-type: none"> • Creation of well-organized cooperatives for improving negotiation skills • Establishment of brand name (marketing campaign) • Organic cultivation of kiwi and other products
Maintainance of high agricultural productivity	<ul style="list-style-type: none"> • Crop restructuring with more productive varieties Education of farmers and pilot testing of new cultivation methods • Upgrade of irrigation systems
Reduction – Mitigation of crop sensitivity to drought in the Pinios Delta	<ul style="list-style-type: none"> • Crop restructuring - Switching to crops with less water requirements

Table 2.5c. Proposed measures related to Challenge 3.

CHALLENGE 3: Protection and restoration of ecosystems	
Goals	Proposed measures
Ensuring the environmental flow in Pinios River	<ul style="list-style-type: none"> • Removal of obstructions from riverbeds • Monitoring network for area security • Compilation of a hydrological study for the management of Pinios river

Restoration and conservation of the riparian habitats of the Pinios River	<ul style="list-style-type: none"> • Ensuring the environmental flow in Pinios River • Construction of infrastructure projects for agrotourism
Rational management of used agricultural packaging	<ul style="list-style-type: none"> • Implementation of the legislative framework and cooperation between the involved bodies • Formation of management bodies through the District of Thessaly
Rational use of pesticides, fertilizers, and other agricultural supplies	
Access to drinkable water for wild species in the mountainous domain	<ul style="list-style-type: none"> • Regulation of spring water captured by private works at the slopes of - Kissavos area

The main purpose of the technical workshop regarding this part was achieved, as it was ensured, as mentioned above, a common understanding of the terms related to the definition of the measures and the meaning and importance of NbS.

2.9. Comments, Conclusions and Next Stages

The 2nd Technical Workshop of Pinios Pilot area ended with Andreas Panagopoulos' presentation recapping the activities of the event, as well as the next planned actions. Some of the next actions which were mentioned are the following:

- ❖ Sending of online questionnaire (google form) or set up of personal meetings: Confirmation / Proposal of new measures & their rating.
- ❖ Café meetings – NbS assets and implementation.
- ❖ Simulation of the impact of proposed NbS measures.
- ❖ Complete development of PSDM, ecosystem services and business plan.
- ❖ Complete development of land use suitability maps (for some cultivations).
- ❖ 3rd workshop - solutions & business plan co-creation.
- ❖ Café meetings – solutions and business plan detailing.
- ❖ Open day results' presentation event: foundation for the post LENSES period.

Afterwards, descriptions of the 9 evaluation criteria to be considered when prioritizing the proposed measures were provided. LENSES sister project (REXUS) weights for each criterion were also presented (Figure 2.12). Finally, the method (online questionnaire or live meeting) and the dates they wish to fill out the questionnaire that will concern the additions of accidental omissions and their scoring according to the 9 criteria were discussed with the stakeholders.



Figure 2.12. Weights of the 9 Evaluation Criteria.

3. Lessons learnt and workshop's Outcomes

3.1. Lessons learnt

In this section, some preliminary results and the lessons that were learnt through the whole preparation and implementation phases of the workshop are highlighted, which could act as guidance for the forthcoming workshops that will be carried out not only in the Pinios pilot area, but also in all the other pilot areas of the LENSES project.

The lessons learnt from 2nd Pinios (pilot) Technical Workshop can be summarized as follows, according to each implementation phase:

- While contacting:
 - Email does not work for the overwhelming majority of stakeholders, especially for those belonging to the agricultural sector. Phone calls really helped.
 - Confirm of stakeholders' participation about 1 day before the workshop. Last minute cancellation can always happen for any unforeseen factors. Have in mind that communication may be needed even on the same day as the work of many participants (farmers) is unpredictable and depends strongly on weather conditions.
 - For stakeholders working on the public sector, it is necessary to contact their superiors and formally invite them (mainly in public services). It should be noted that all the expenses (travel and accommodation cost; daily compensation) who travelled from a different city were covered and this is a good motivation to show them how significant their participation is.
 - Thoroughly check potential time conflicts with other venues organised in the region and target the same groups. Avoid organising such events simultaneously to others, especially so if it comes to events of high importance to the stakeholders: they will get in an difficult position to select which event to attend.

- While organizing:
 - Rehearsing the steps and going through each activity helped a lot (using post-it, moving around the spaces, etc).
 - Ensure a good internet connection especially when you use crowd sourcing platforms. Having a mobile internet router as a backup is a good idea.
 - The configuration of the rooms (furniture and printed material) can contribute to the efficient facilitation of the stakeholders ensuring the absence of obstacles for undisturbed movement and easy view to maps and related material for all of them.
 - The configuration of the working groups must be made on equal terms (representatives from each level, body, sector). Try to control people with contrasting interests and strong personalities in order to avoid conflicts.
 - Ensure that you have included in your time schedule the time needed for explaining how your active participation methodology (post-it papers, cards etc) works, including some examples to make the stakeholders familiar.
 - Plan some activities that spark the imagination and capture the interest of the participants. A good suggestion is to do them in the middle of the workshop (before or after the break) to give the participants a rest and fill them with enthusiasm for what's to come.
 - Select dates and times that suit the majority of your stakeholders. Don't have them prioritise their needs and obligations.
 - If needed, split the stakeholders into groups ensuring that there is at least one motivator in each group that will help in mobilising the rest of the group.
 - Active participation requires building trust and comfort space for each and every stakeholder. A preparatory phase is thus needed to develop this environment before requesting stakeholders to stand – up and perform. The time needed to reach this stage varies considerably on the personal characteristics. Some individuals need more encouragement than others to open up and express their opinion. It may be useful to seek further feedback in such cases through visits in their comfort zone and perhaps in a more private environment (less people present). Still, a one-to-one meeting may also be strenuous in some cases, therefore you need to carefully balance and assess the profile and needs on an individual basis.

- During the workshop:
 - Respecting time limits, limiting discussions to reasonable time frames in the phases when people share their thoughts and opinions.
 - Constant reminders of the objectives of the workshop should be provided in order to avoid off-topic discussion.
 - Carefully monitoring the conversations between stakeholders and intervening when controversies are about to start.
 - Have always in mind that as a facilitator you have to keep a neutral position during the workshop regarding the conflicts that could be identified between the sectors and potential controversies that could take place.
 - After the experience of the demanding long workshop (about 5 hours), it was concluded that the duration of the 2nd workshop should be less (about 3,5 hours). This decision proved perfect as the participants were relaxed and willing to participate throughout the whole workshop. In addition, no dropouts were observed during the workshop. In fact, the duration of each such event depends largely on the profile of the participants. Normally stakeholders

of an academic or institutional profile may endure concentration for longer and more intensive meetings, hence the duration should be decided on the characteristics of your stakeholders.

3.2. Discussion and Conclusions

It was a great pleasure and satisfaction to see that most of the stakeholders were highly motivated and faced the 2nd workshop as an opportunity once again rather than an obligation. It is obvious that they have clearly acknowledged the complexity of the NEXUS and the imperative need to address all sectors on an equal basis to define solutions that are viable and promote resilience. The overall picture that got through the responses and the discussions is that stakeholders of every sector have the willingness, energy and ideas to contribute to proposing solutions for the Pinios pilot area and explore the complex system of NEXUS. Interestingly, the number of participants was equal to the 1st workshop, which shows the expectations created around LENSES project in the previous months through various activities and stakeholders' belief in the future steps. Moreover, it reflects on the need they have to openly express their ideas and concerns for the future and also their willingness to be part of the solution.

Unfortunately, it should be emphasized that about 4 farmers and breeders did not participate in the workshop although they initially confirmed their presence. However, the general feeling is that people that represent the agricultural sector, experiencing difficult times with the energy crisis and the rising prices, do not recognize that they can benefit in the short term by contributing to events of research projects either practically or financially, thus prioritizing their every day engagements. A way must be found to motivate them and face these workshops as opportunities rather than obligations, setting their participation high in their agenda.

Regarding the activities of the workshop, the created confusion was evident. Many of the stakeholders did not understand the distinction between the terms goal and measure as a result they gave their answer in the wrong fields. The instructions given to fill them in should be improved. Probably pre-written posters in each room with each country's policies would assist in reporting appropriate and sufficient measures for each of the three challenges during the workshop. Better preparation was felt to be imperative, especially in some cases where the goals were few and incomplete. There were not a few cases where the level of the stakeholders acted as a limiting factor as they could not either fully understand definitions (i.e. Nature Based Solutions) or some goals in general (i.e. Restoration/Reduction of locally high concentrations of nitrates in groundwater). This is how the proposal of solutions and even more importantly "green" solutions did not come forward as much as we would have expected.

Staying neutral during the workshop proved to be the key factor for bringing the stakeholders together for a second time. There were differences in their views, but the discussions between them took place in a climate of unity and willingness to find appropriate solutions for the well-being of all sectors. The belief of the local community that this project is the solution to the multiple cross-sectoral problems facing Agia's sub-basin and Pinios Delta is now visible, and everybody is willing to spend their energy and time in this direction.

Finally, organizing the 2nd Pinios pilot technical workshop was a demanding and challenging process and attention to detail was a prerequisite for its successful conduct. Both the actions during communication and organization, as well as during the workshop, must be planned step by step. Rehearsals, alternative scenarios for possible complications and adaptability to the circumstances allow the team to enjoy its progress more and focus on the scientific part of the procedure. Last but not least, a great commitment to the goals of the workshop and respect of the time and energy of every participant are essential for a

successful outcome and for future collaborations. Many future activities of the Pinios pilot area have already been planned. Specifically, with the continuous contribution of our stakeholders in the coming months at least two LENSES cafes, and of course the 3rd Technical Workshop will be held. After all these, and along with the stakeholders, the exercises will develop alternative realistic Nature Based Solutions to be tested.



Figure 3.1. 2nd Technical Workshop's group photo of the Stakeholders.

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