Roadmap for setting up STEM learning ecosystem on sustainable landscapes

The SUSTAIN consortium actively built STEM learning ecosystems on sustainable landscapes, both at a regional and European level. We selected a cross-section of science education stakeholders: secondary schools, universities and other providers of science education either working in the sustainable landscapes field or interested in engaging pupils to contribute to their local environments. EUSEA - an international knowledge-sharing platform and accelerator of innovation in public engagement, was included in the consortium for their expertise in the design, organisation and implementation of public engagement activities. Our aim is to spark dialogue on sustainable landscapes to articulate a sense of urgency for regional sustainable development goals. We developed learning modules together to engage pupils and their teachers with research on sustainable landscapes to stimulate critical thinking and raising interest in STEM learning and work. In addition, we equiped school teachers with the skills to bring together formal and informal learning in research projects: https://www.sustainablelandscapes.eu/

1. Start with organizations that are enthusiastic about setting up a STEM learning ecosystem in the region on sustainable landscapes. Expand the network at a later stage.
    o   It is important that one organization takes the lead
    o   (School) management need to facilitate their employees/teachers to make sure they have time in their schedule to work on the project; this is a must!

2. Describe together the goal of the learning ecosystem, how you are going to finance the project and what program you are going to develop together. What are the interests of each organisation? What do you want your target group to learn/experience from your collaboration? How are you going to fit the program in the curriculum of the school?
    Think about:
    o   connecting inside the classroom (formal) and outside (informal learning)
    o   connecting talent development for students in combination with professional training for teachers

3. Perform together a stakeholder analysis. Who could you involve in your learning ecosystem on sustainable landscapes? Think of nature-oriented organizations (nature conservation, nature clubs about for instance bird watching, …), land users (farmers, fishery, …), landowners, local governments.
    o   Try to involve a broad range of stakeholders to show your target group the broader picture

4. In what way can you involve the stakeholders in your program? Are stakeholders willing to contribute? Balance logistics (efficiency, costs) with impact! Inviting stakeholders in your classroom is probably the most efficient way, yet for pupils the experience to visit a stakeholder in his/her working environment can be must more informative and exciting.

5. Develop a program (activity, lesson module, …) together as network.
    o   Note that pupils like to work on a real-life challenge rather than on an invented project.
    o   Choose active formats (interview carrousel, speed dates, student parliament, ….) –
        see for inspiration about recommended formats for engagement in science the Platform;
        https://eusea.info/platform/
    o   Involve arts in your program (i.e. vlogging, role play; photo contest, …)

6. Develop and implement a communication strategy about your project. Connect as much as possible with existing channels of communication to reach out to your target groups, stakeholders and other audiences.

7. Keep on evaluating and improving the program you offer with your network. What did you learn from the first activities you organize together? How can you increase the quality of these activities?
   o Also involve your target group(s) in the evaluation process. What did they like about the program, and why?

8. Think about expanding your learning ecosystem on sustainable landscapes. How do you want to expand your network? Do you want to expand the learning ecosystem within your organizations (extend program for longer period; more age groups involved; teachers from other school subject)? Do you want to involve more schools, different stakeholders, different target groups, …?