

## Student Sustainable Entrepreneurship in Action: Design thinking and Co-Creation on Koster, Sweesen as a part of the INTERREG FREIIA Project

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### **Abstract**

*FREIIA, Facilitating Resilience Embracing Islands Innovation, is a INTERREG project financed by the European Union running from 1. October 2022 until 31. December 2025. The project consists of 14 partners from 6 countries, Netherlands, Denmark, Sweden, Germany, France and Norway.*

*The aim of this project is to help 6 island communities in the European Union to create competences, capabilities & structures that support the public sector in becoming successful in the green transition, through the involvement of community, young entrepreneurs and students.*

*Østfold University College is responsible for Work Package 4 (WP4), which focuses on fostering student entrepreneurship. The main objective of WP4 is to integrate entrepreneurship students into the strategic governance of island innovation, strengthening their role in green transitions. When referring to the FREIIA project in this paper, it refers to WP4 of the FREIIA project.*

*In the first phase of this project, we identified innovation gaps on the island of Koster Sweden, through semi-structured interviews with stakeholders from the public, private, and civil sectors. This paper presents the next phase of the project, which uses design thinking and the double diamond framework to co-create solutions to the identified challenges through a workshop.*



Figure 1 Workshop at Naturum

The Koster Islands are a unique community in Sweden, with rich nature and strong traditions. However, the community faces several challenges, including increasing pressure on natural resources and the need for economic development that aligns with environmental sustainability. In the heart of Sweden's Kosterhavet National Park. Located near Strömstad and surrounded by rich natural landscape, the island is a popular destination for tourists, especially during the summer months.

Through the project, the island community's current situation and challenges are mapped out as a basis for proposing measures to strengthen development capacity. Development capacity here refers to the collaboration between various actors on the islands to promote innovation and sustainable growth. The project is part of the EU Interreg North Sea program and supports the goal of contributing to sustainable development and human growth in local communities.

However, the accessibility and scenic beauty come at a price. The islands face significant challenges related to sustainable development, pressure on natural resources, and a demographic imbalance that threatens the community's long-term viability.

Through the FREIIA project, we have mapped out the current state of the Koster Island and analyzed the community's development capacity. Here, development capacity refers to the ability to mobilize cooperation and resources to promote innovation and sustainable growth. Using innovative methods, we have explored how the Koster Islands can address future challenges.

In V1, after completing the interviews, we have, through the use of AI analytics, identified a few problem statements that we found important to pursue in the workshop. For V2, the five problem statements were as follows :



The slide features a header with logos for 'Littering North Sea' (a bird), 'Co-funded by the European Union', 'Høgskolen i Østfold', and 'DRIVHUSET'. The main title is 'Problem statements' in a large, bold, dark blue font. Below the title is a numbered list of five questions:

1. How might we make housing development sustainable on Koster?
2. How might we engage people in innovation projects that improve Koster?
3. How might we develop collaboration between the business sector and the public sector to support innovation and sustainable growth?
4. How might we facilitate sustainable coexistence between tourism and permanent residents on Koster?
5. How might we optimize the use of Koster's limited resources to create innovative, year-round jobs and sustainable economic opportunities?

These findings set the foundation for the work conducted during phase two (V2), specifically in the workshop component. Here, we actively utilized Design Thinking throughout the workshop.

One of the key elements for success is involving local stakeholders as part of the solution. We emphasize stakeholder inclusion to foster a sense of ownership regarding the problem statements, making it easier for stakeholders to envision themselves within the solutions. Ultimately, it is the stakeholders and the inhabitants of the island who must implement these solutions. Therefore, our main focus is empowering the local community to drive innovation forward.

## **Koster**

Park in Sweden, just on the west coast near the town of Strömstad. The archipelago consists of two main islands, Nordkoster and Sydkoster, along with several

**Koster Islands** are located in the Kosterhavet National

smaller islands, covering an area of approximately 9 km<sup>2</sup>. The largest settlement is located on Sydkoster.

In 2023, the population of Koster was around 300 permanent residents, but during the summer months, the number of people on the islands increases to over 5,000 due to tourism. The main industries on Koster are tourism, fishing, and small scale agriculture. The islands are known for their rich marine biodiversity, which is protected as part of Sweden's first marine national park.

The local economy relies heavily on tourism, with visitors attracted to the islands' scenic beauty, outdoor activities like cycling, kayaking, and hiking, as well as the pristine waters of the Kosterhavet. The islands are accessible by ferry from Strömstad, which lies approximately 10 km to the east. There are no cars allowed on the islands, promoting a peaceful and eco-friendly atmosphere.

The debate over sustainable tourism management has been ongoing in recent years, with locals working to balance environmental protection and economic growth. **Lars Johansson** has been the mayor of Strömstad municipality, which oversees the islands, representing the Social Democrats.



Figure 2 Map of Koster Island

**Methods & Process (Design thinking)**



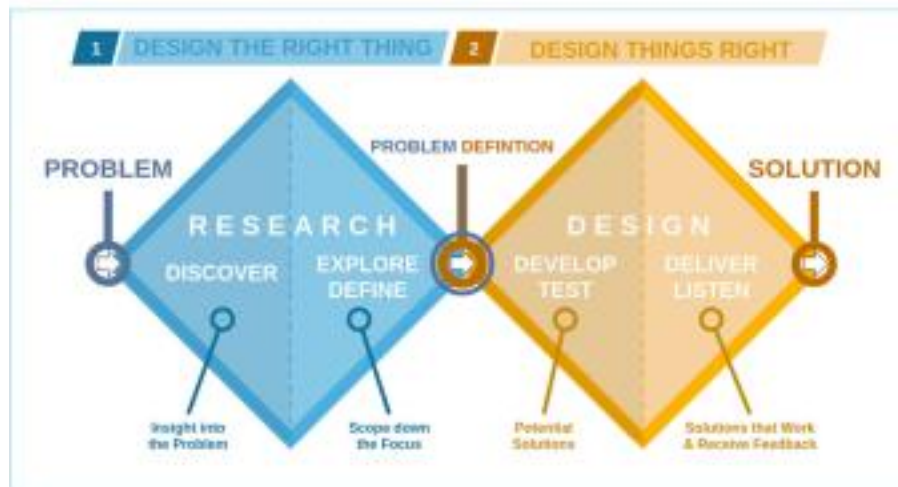


Figure 3 Design Thinking Model

Guided by the Double Diamond model («The Double Diamond Model», 2024), the V2 phase of our project focused on designing and testing solutions to address the problem statements identified in V1. Central to this phase was a design-thinking workshop held on Koster Island, involving stakeholders and students from Østfold University College, Väst University College, and Artevelde University College. This diverse group worked collaboratively to propose innovative and actionable interventions aimed at improving the island's sustainability.

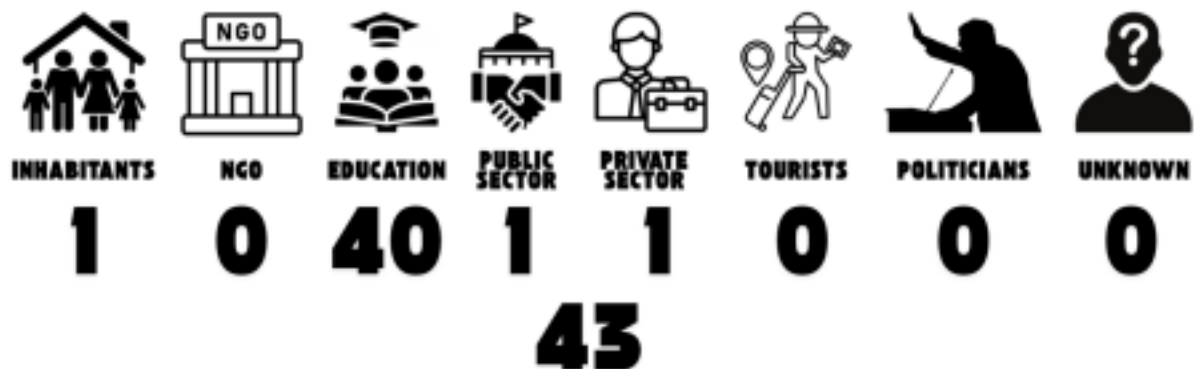


Figure 4 Participating stakeholders and students categorized

The workshop followed a structured process designed to foster creativity, inclusivity, and practical problem-solving. Participants engaged in exercises such as brainstorming, categorization of ideas, and the "How Might We" framework to refine challenges into opportunities. Methods like the Round Robin and Crazy 8's techniques were employed to generate, critique, and improve solution concepts, ensuring iterative development and broad perspectives.



*Figure 5 Workshop Process*

The proposed solutions were evaluated using tools like decision matrices to assess societal value and feasibility. Participants then prepared and presented pitches, focusing on actionable steps, key collaborations, and measurable outcomes. This collaborative and iterative approach ensured that the solutions were both grounded in local needs and aligned with broader sustainability goals.

The outcomes of this phase provide a solid foundation for implementing practical innovations on Koster and offer a replicable framework for other island communities seeking sustainable development.

## **Results & discussion**

The workshop at Naturum on Koster Island convened stakeholders and students to collaboratively address challenges identified in V1, using the “How Might We” framework to reframe problems into opportunities. Key outcomes included strategies for fostering stronger community ties, such as organizing events where residents exchange services, younger individuals assist with technology, while older generations provide childcare. This initiative aims to enhance social cohesion, with progress measurable through participation rates and community satisfaction.

Participants also proposed reopening the local school to attract families and rejuvenate the community. The plan leveraged alternative pedagogies and begins with an initiated preschool program, building toward a fully operational institution. Success will be gauged by student enrolment numbers and local feedback.



Figure 6 Priority Index, solutions on problem-statements

Addressing gaps in public-private collaboration found in V1, the workshop purposed a pilot program designed to foster trust between these sectors. By securing funding, initiating collaborative projects, and improved communication, the workshop and prototypes seek to build a bridge in resource sharing and decision-making for the stakeholders on the island

Finally, the workshop highlighted the need to diversify Koster's economy beyond its reliance on tourism. Suggestions included marketing Koster as a sustainable destination for year-round activities and forming partnerships with Scandinavian businesses. By targeting digital nomads and promoting eco-friendly ventures, the island can create year-round economic activity. Progress in this area will be tracked through increased revenue and employment rates, reflecting reduced dependency on seasonal tourism.

The results from the workshop underscore the potential of integrated, community-driven approaches to face the challenges identified on Koster Island. The solutions developed through this collaborative process not only address local needs but also align with broader sustainability goals, laying a strong foundation for practical innovations.

## Conclusions

The second phase of the FREIIA project on Koster has demonstrated how structured, collaborative approaches can drive meaningful innovation in island communities. By applying the UNIC method and Design Thinking, key challenges related to sustainable development were identified, such as:

- **Gaps in communication and collaboration between different stakeholder groups.**
- **Difficulties in ensuring long-term youth engagement and involvement.**
- **The absence of dedicated spaces for fostering cooperation and dialogue.**
- **Tensions between economic development, tourism, and environmental preservation.**

**The need for clearer, more accessible frameworks to facilitate sustainable solutions.** To address these issues, the interdisciplinary workshops provided a dynamic setting where stakeholders could engage in open discussions, share expertise, and co-develop potential solutions. The process resulted in several initiatives that are particularly relevant to Koster's context, including:

**A Stakeholder Network for Continuous Collaboration**, ensuring that knowledge-sharing

and cooperation extend beyond the workshops.

**Educational Programs Focused on Sustainability**, empowering younger generations to take an active role in shaping the island's future.

**The Establishment of a Physical Collaboration Arena**, designed to serve as a central hub for discussions, decision-making, and problem-solving.

These initiatives illustrate the impact of participatory innovation, where solutions are developed collectively rather than imposed externally. The workshops also emphasized the importance of maintaining Koster's cultural and environmental identity while fostering development that benefits both the local community and the natural ecosystem.

### Next Steps

The insights and solutions developed during this phase will contribute to a broader knowledge-sharing process between island communities. By integrating Koster's experiences with those of other islands in the FREIIA project, this phase serves as a foundation for cross-regional learning and adaptation. The identified challenges and proposed solutions will be part of a larger transfer process, where best practices from different islands can inspire and support sustainable innovation elsewhere.

Through this exchange, Koster's experience can serve as an example of how collaboration-driven methods can be applied in different contexts.

### Acknowledgements

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### References

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