

Student Sustainable Entrepreneurship in Action: UNIC Methodology and Innovation Gaps on Schiermonnikoog, Netherland as 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.

The following paper describes the process of determining the innovation gaps on Schiermonnikoog in the Netherlands using students from the participating universities and stakeholders from the islands. The next step will be to resolve the gaps by finding new solutions created by innovative methods like design thinking.



(Students and stakeholders at mudflat excursion with Natuurmonumenten at Schiermonnikoog.)

Introduction

Through the project, the current and desired state and challenges faced by the island community of Schiermonnikoog are examined to identify potential gaps in between these. In these gaps lies the opportunity for innovation and to improve development capacity. Development capacity, in this context, refers to the ability of various stakeholders to collaborate effectively in driving innovative development and fostering sustainable growth on island communities.

The initiative is part of the EU Interreg North Sea Region FREIA project, which supports Østfold University College's 2030 vision: Knowledge for human development and a sustainable society. (*Strategy 2030 - Østfold University College, u.å.*)

A key feature of this phase was the close collaboration between Østfold University College (HiØ), Hanza Høgskole, Natuurmonumenten, and the municipality of Schiermonnikoog. This partnership was essential for establishing connections with a diverse range of stakeholders and ensuring that the analysis was grounded in local realities. The interdisciplinary approach, combining academic expertise and community perspectives, created a strong foundation for identifying challenges and opportunities unique to the island.

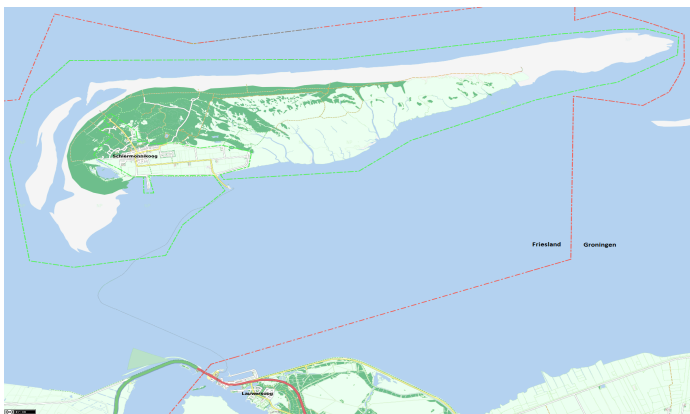
With this collaborative framework, the second implementation of the UNIC analysis not only enhanced the methodology but also highlighted the critical role of adaptability and co-creation in addressing Schiermonnikoog's sustainability challenges.

Schiermonnikoog

Schiermonnikoog is one of the West Frisian Islands in the Netherlands, located in the province of Friesland. The smallest inhabited island in the archipelago, it lies in the Wadden Sea, a UNESCO World Heritage Site. Covering approximately 40 square kilometers and home to around 950 residents, Schiermonnikoog combines a small, closely-knit village with vast, open natural landscapes.

The island is renowned for its unique natural environment and commitment to sustainability. Large parts of Schiermonnikoog are designated as a national park, featuring sand dunes, expansive beaches, and a rich variety of wildlife, including numerous bird species. A popular destination for tourists, especially nature enthusiasts, the island is celebrated for its peaceful atmosphere, eco-friendly tourism, and cycling-friendly infrastructure. Visitors can only get around by foot or bicycle, as the island is car-free for tourists. Regular ferry connections link the island to the mainland.

Tourism is the primary source of income for Schiermonnikoog, with a strong emphasis on balancing economic activity with environmental preservation. The combination of a rich ecosystem, focus on sustainability, and a unique location makes Schiermonnikoog an integral part of the Netherlands' efforts in environmental conservation and local development.



Method: Theoretical framework

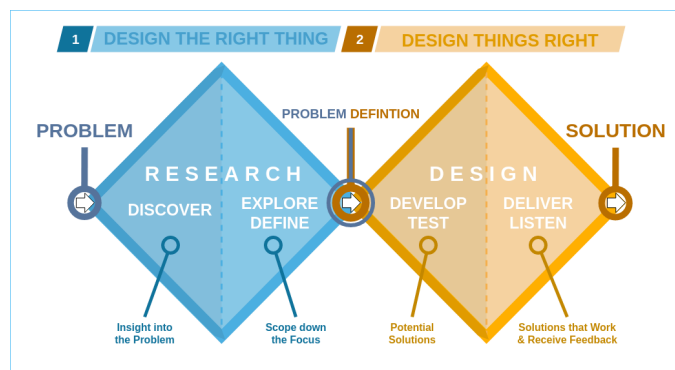
In this study, we applied principles from the UNIC method and the Double Diamond framework to address challenges in sustainable development on Schiermonnikoog. The methodologies share a user-centred approach to problem-solving. This makes them ideal for our needs to gain insights into the challenges faced by island communities and tackling them.

UNIC Method - Phase 1: Analysis

In the first phase of the UNIC method, we focused on data collecting and analysis. In Phase 1, in-depth interviews with stakeholders from Schiermonnikoog to understand their challenges, needs, and perspectives on sustainability. This phase is parallel to the “Discover” stage in the Double Diamond framework, focusing on gathering insights about the user’s needs and problems. In this case, the users or stakeholders, included community members, business owners, and local officials, ensuring a wide range of perspectives were captured. (Hein, L. (December, 1988b). Diagnose på udviklingsfunktionen (notat 2). UNIC-gruppen).

Double Diamond - Discover & Define

The Double Diamond framework, developed by the British Design Council, structures innovation processes into four phases: Discover, Define, Develop, and Deliver. In this study, we utilized the Discover and Define phases to explore and synthesize stakeholder insights. Thematic analysis of interview data helped identify core issues such as limited collaboration, youth retention, and community engagement gaps. ([«The Double Diamond Model», 2024](#)).



Semi-Structured Interview Approach

To ensure consistency across islands, a standardized interview guide was employed. Questions were designed to elicit both specific insights and broader reflections on sustainability challenges. The eight questions included:

1. What is your role in the island community?
2. How would you describe the island community and its current state?
3. What are the biggest challenges the island community faces regarding innovative development and sustainable growth?
4. What initiatives has the island community previously undertaken to address these challenges?
5. How does the island community collaborate to promote innovative development and sustainable growth?
6. In your opinion, how can the island community improve its development capacity?
7. How can you and your organization contribute to improving the island community’s development capacity?
8. How can the island community collaborate better with surrounding communities and regions to achieve common goals?

This semi-structured format allowed respondents to explore broader topics beyond the predefined questions, offering valuable insights into the island's present conditions and potential interventions to enhance development capacity. This method is particularly important for exploring wicked problems, which are complex and resist straightforward approaches. In the context of sustainable development, wicked problems are challenges that involve multiple stakeholders, conflicting interests, and long-term impacts, making them hard to address through traditional methods.

Methodes: Applied in practice

The UNIC analysis on Schiermonnikoog was the second implementation of this methodology within the FREIIA project. Building on lessons learned during the pilot study on Hvaler, the process was adapted to address the specific dynamics of the Dutch island community. Østfold University College (HiØ), in collaboration with Hanzehogeschool, the local municipality, and Natuurmonumenten, facilitated this phase.

Stakeholder Engagement and Interview Process

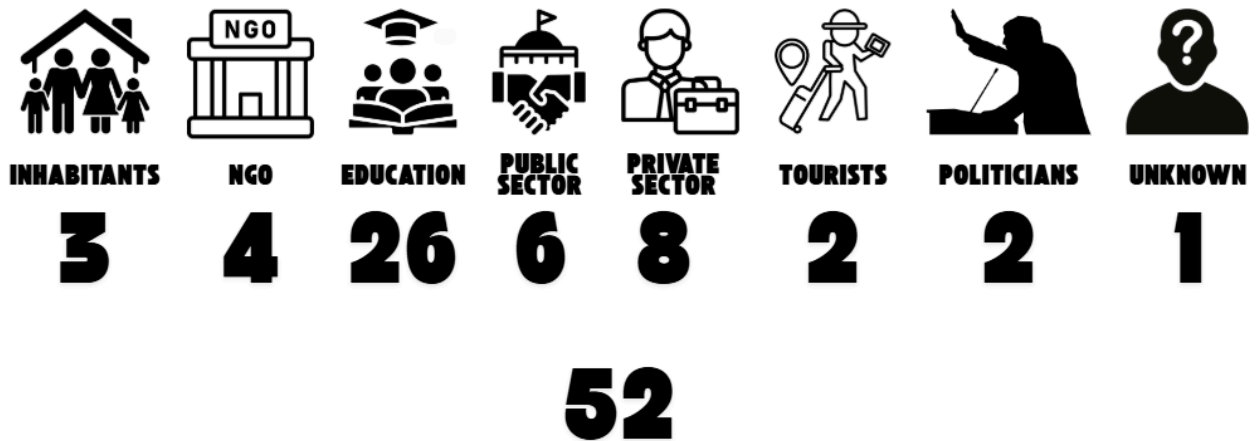
On Schiermonnikoog, establishing a diverse and representative stakeholder network was pivotal. Unlike the Hvaler pilot, where existing relationships facilitated access, the Schiermonnikoog team faced the additional challenge of building connections from scratch. Close collaboration with local partners ensured a comprehensive approach to stakeholder selection, encompassing municipal leaders, conservationists, business owners, community members, and tourists.

The interviews were conducted over two days by interdisciplinary teams comprising Dutch and Norwegian students from Hanze University and HiØ. Teams of two to three students conducted semi-structured interviews in Dutch or English, depending on stakeholder preference. This bilingual approach allowed for a broader range of perspectives, while team collaboration helped bridge cultural and methodological differences.

Data Collection and Methodology

The interviews were guided by a standardized framework of eight semi-structured questions used consistently across all FREIIA project sites. These questions targeted the challenges, needs, and aspirations of the island community while allowing flexibility for respondents to share unique insights. Teams were encouraged to perform spontaneous "stunt interviews" during their fieldwork, capturing unplanned but valuable input from residents and visitors.

All interviews were recorded and securely stored using SIKT, Sikt ensures secure digital infrastructure, protecting data and communication in research and education (*Sikt – Kunnskapssektorens tjenesteleverandør / Sikt, u.å.*). Following transcription, the data was anonymized and subjected to thematic analysis by the students. This systematic approach ensured that the findings were both comprehensive and aligned with the objectives of the UNIC method. (Hein, L. (December, 1988b). Diagnose på utviklingsfunksjonen (notat 2). UNIC-gruppen.)



(This model provides an overview of the number of interviews conducted, and other involved stakeholders in this part of the project, categorized by group, as part of the Innovation Gap analysis on Schiermonnikoog)

Key Adaptations

The methodology applied on Schiermonnikoog incorporated adjustments to address initial challenges, including:

- Refining Stakeholder Lists: Early misalignment in interviewee selection highlighted the importance of diverse representation. The final interview list included stakeholders across public, private, and civic sectors.
- Pre-Interview Alignment: Meetings with project partners clarified objectives and resolved discrepancies in methodology.
- Integrated Team Dynamics: Dutch and Norwegian students collaborated closely, fostering mutual learning and enhancing the quality of data collection.

By adapting the methodology to the local context, the Schiermonnikoog phase successfully balanced rigorous data collection with the flexibility needed to engage a unique island community.

Schiermonnikoog's UNIC workshop focused on engaging a diverse range of stakeholders to capture a wide spectrum of perspectives, essential for understanding the island's challenges and opportunities. Stakeholders included business owners, municipal representatives, conservationists, tourists, and community members. The emphasis on inclusivity ensured that insights from all sectors were represented in the analysis.

Student involvement

Over two days, Norwegian and Dutch student teams traveled across the island to meet stakeholders in their own environments, including businesses, municipal offices, and local landmarks. A detailed schedule was created to ensure efficient time management and maximize participation, which was then shared with the students. Meeting points were set throughout the day to provide support and address any questions or challenges. A designated lunch station served as a base for the leadership team during the interview period for availability purposes. Students conducted semi-structured interviews using a predefined format consistent across all islands in the FREIIA project. This approach ensured standardized data collection while allowing participants to share personal insights and experiences.



(Students and leader team at the cafe "KoffieKajjut" for lunch on interview day.)

The interviews were designed to align with the Discover phase of the double diamond method, focusing on uncovering stakeholders' challenges, needs, and aspirations. This approach ensured that the analysis captured the nuances of local perspectives while maintaining compatibility with findings from other islands. Students also conducted spontaneous "stunt interviews" with tourists and locals they encountered during fieldwork, enriching the dataset with unanticipated perspectives.

World Café Session

Following the interviews, a World Café session was organized. This provided opportunities for the Norwegian and Dutch students to come together and reflect on the outcomes of the interviews. During this session, students and professors shared their perspectives and experiences, discussing the collaborative process and the solutions developed. The World Café format encourages open dialogue, enabling participants to exchange insights and learn from each other's viewpoints. This session led to a deeper understanding of how diverse perspectives contribute to innovative problem-solving. («(PDF) The "World Café" as a Participatory Method for Collecting Qualitative Data», 2025)



(From the World Café Session)

Results

The FREIIA project's initial phase on Schiermonnikoog identified key challenges and opportunities for sustainable development through a comprehensive analysis of community dynamics. The interviews and workshops captured a wide array of perspectives, providing valuable insight into both structural barriers and emerging opportunities. These findings were essential in shaping the next steps of the project and will serve as a basis for co-creating actionable solutions in the subsequent workshops.

Key findings from this phase are summarized below:

1. **Circular Economy:** There is a difference in the understanding of the circular economy as a concept amongst the different sectors. While the municipality has a huge interest in it, some stakeholders struggled to see how the concept of a circular economy applied to their daily lives and businesses. The concept felt abstract and disconnected from local realities, making it difficult to implement effectively.
2. **Retaining Young Adults:** The island loses many young people to urban centers, creating demographic challenges. A lack of opportunities and inspiration for young adults reduces the island's appeal as a place to live and work. High cost of housing is also an issue in this debate.
3. **Collaboration Across Sectors:** Limited cooperation between public, private, and civic actors slows progress on shared goals. Stakeholders noted a lack of collaboration between sectors, which is hindering innovation. The lack of an arena for collaboration was mentioned. The will is there.
4. **Space and Resource Optimization:** Limited physical space and resources constrain development on the island. For example: While Schiermonnikoog is growing and adapting for the future, it also has strict building laws that make development difficult. Finding sustainable ways to grow while respecting natural and spatial limits is a key issue.

These results highlighted Schiermonnikoog's critical sustainability challenges and opportunities for growth. Addressing the disconnect between the circular economy concept and local realities will require developing a shared vision that resonates with stakeholders. Retaining young adults is crucial for the island's future and demands targeted initiatives to create opportunities for this demographic. Strengthening collaboration across sectors and optimizing limited resources will be essential to the island's sustainable growth. These insights will guide the next phases of the FREIIA project, focusing on co-created, community-driven solutions.



(Dutch and Norwegian students Schiermonnikoog)

Local Business Owner

"The houses for sale are very expensive. So a lot of people with money are buying houses, and not all of them are becoming part of the community."

– Highlights the challenge of increasing property prices and the decline of permanent residents.

"Not everybody is happy with us. But we are focusing on young people, also students. People who come to the island to have some fun."

– Illustrates efforts to attract younger visitors and maintain a vibrant tourism industry.

"We need workers for tourism, and it's difficult in the Netherlands—and I guess also in all of Europe."

– Describes labor shortages in the tourism sector and the reliance on foreign workers.

Returning Resident

"After COVID, some youngsters started coming back. They were born here, they studied, and then said: 'Maybe it's not that bad on the island.' It's small, but we have our freedom."

– Shows a shift in attitudes where younger generations reconsider island life post-pandemic.

Local Education Initiative Leader

"We started three years ago a school—Schier Academy—in cooperation with a college from the mainland. Our dream is to build a campus."

– Illustrates efforts to provide local education opportunities to retain young people.

"We need 25 to 30 students to make the finances work, but we are growing every year."

– Highlights the challenge of financial sustainability in small-scale educational initiatives.

Community Member

"You feel like ownership of the island is yours. Definitely."

– Emphasizes the strong sense of community belonging and identity.

"If you are not doing anything, you can say there is nothing on the island. But you have to make it yourself."

– Underlines the importance of community engagement in maintaining island life.

These insights are directly derived from the interviews done on Schiermonnikoog, September 2023, and underscores the challenges facing Schiermonnikoog but also provide a clear foundation for the next steps of the FREIIA project, where collaborative and innovative solutions will be co-created with stakeholders and students to address these challenges.

Methodological reflection:

The UNIC analysis provided valuable qualitative insights, but some methodical challenges emerged during the initial phase of the FREIIA project on Schiermonnikoog. While the standardized semi-structured interview approach ensured consistency across islands, practical issues such as stakeholder expectations and communication gaps required adaptation

A wide range of stakeholders: local business owners, returning residents, education leaders, and community members - offered invaluable insights into the island's sustainability challenges. However, a significant issue arose from the lack of shared vision and common understanding of core concepts, such as the circular economy. While the municipality expressed significant interest in adopting circular economy practises, many other stakeholders struggled to see its practical application in their daily lives and businesses. This gap between the theoretical concepts and local realities creates a barrier for further work with the topic going forward.

Practical aspects of data collection and communication also played a role. For instance, some stakeholders did not fully understand the FREIIA project's goals or how their participation aligned with these goals. This confusion led to a need for adjustments in our approach, with an emphasis on clearer communication of the project's objectives and methodologies. To ensure better coordination in future phases, it became clear that pre-interview collaboration and targeted outreach would be crucial. We refined our strategy early in the project, ensuring that interview questions were communicated clearly to all participants and a diverse group of interviewees was selected to represent a range of perspectives.

Through these adjustments, we aimed to mitigate any confusion and ensure that stakeholders had a clearer understanding of their roles in achieving the overarching objectives of the FREIIA project.

Discussion

Reflecting on the initial phase of the FREIIA project, several key issues emerged that shaped the data collection process and also pointed to potential gaps, barriers and opportunities for Schiermonnikoog's future development.

Bridging the Circular Economy Gap

A significant barrier to progress was the gap between stakeholders' understanding of the circular economy. The municipality's enthusiasm for circular economy practices contrasted with the struggles of other stakeholders to apply the concept in their daily lives. This lack of shared vision is an important finding, as it emphasizes the need for a more grounded, tailored approach to implementing concepts like circular economy—ones that are contextually relevant to Schiermonnikoog's community and challenges. Future workshops and discussions should focus on bridging this gap, providing concrete examples and actionable steps for stakeholders to engage with.

Fostering Entrepreneurship

Local business owners expressed concerns about the high cost of housing, combined with a limited local labor market, which was pushing away permanent residents, especially young people. The gap between the municipality's aspirations and the practical challenges faced by businesses and residents was clear. One possible solution is to create a formal arena for collaboration where the municipality, businesses, and other sectors can come together to share ideas, resources, and knowledge. This collaborative space could bridge the knowledge gap and help businesses understand how such concepts like circular economy could be applied in their local context.

Another major issue identified was the outflow of young people from Schiermonnikoog. Interviews with local business owners and community members revealed that the high cost of housing, limited job opportunities, and a lack of inspiration for young adults were pushing them to seek opportunities in urban centers. The establishment of local education initiatives, like Schier Academy, represents a positive step toward reversing this trend, yet the sustainability of such projects remains a concern. The challenge of attracting and retaining young people on the island must be prioritized, and future phases of the FREIIA project should focus on developing targeted strategies to create attractive opportunities for this demographic.

Strengthening Cross-sector collaboration

A key identified gap in the project was the lack of cross sector collaboration (public, private, civic). Stakeholders noted the lack of a formalized arena for cross-sector collaboration, despite a shared willingness to work together. This underlines the need for a structured framework or platform where diverse stakeholders can come together to share ideas, resources, and expertise. Building this platform will be essential to ensuring the successful implementation of the project's objectives.

Balancing conservation and development

Schiermonnikoog also faces significant challenges with space and resource optimization. While there is a growing demand for housing and services, strict building laws and limited resources constrain development. Future phases of the project should explore innovative, sustainable solutions that allow the island to grow while respecting its natural and spatial limits.

A recurring theme from the interviews was a tension between nature conservation and development. Many stakeholders expressed frustration with the island's strict building and conservation laws, which they felt hindered innovation and sustainable growth. For example, the regulations preventing the installation of solar panels in the town center forced innovators to lease rooftops on farms on the island's outskirts. While these solutions offered some progress toward sustainability, the gap between development goals and environmental protection remained a pressing issue. Finding a balance between ecological preservation and growth will be a delicate process. Both those advocating for development and those focused on conservation must collaborate to find creative, context-sensitive solutions that respect the island's unique natural environment.



(Sanddunes on the top and typical housing on the bottom)



Conclusions

The initial UNIC analysis on Schiermonnikoog provided valuable insights into the island's sustainability challenges, specifically focusing on the gaps in circular economy implementation, youth retention, cross-sector collaboration, and space/resource optimization. These findings highlight the island's need for a shared vision among stakeholders to ensure effective development and sustainable growth.

The gap in understanding and communication across different stakeholders, especially regarding key concepts like the circular economy, highlighted the importance of clearer dialogue and better alignment across sectors. This disconnect has posed challenges for collaboration and hindered the identification of practical solutions.

Moving forward, the lessons learned from this phase, such as the importance of creating an arena for collaboration and ensuring clearer communication with a shared vision, will guide the next stages of the project. Tailored workshops and more targeted outreach will be essential to ensure that all stakeholders are aligned and fully engaged in the process. Specifically, the next phase will focus on translating these insights into concrete strategies. Co-creation workshops will be central to this, where stakeholders will collaboratively develop actionable solutions tailored to local needs and circumstances.

In the upcoming phases, we will compile a comprehensive report comparing findings and solutions across all project islands. This comparative analysis will help identify best practices and foster cross-island learning, enhancing the overall transferability of solutions and maximizing the impact of the FREIIA project.

Through these actions, the FREIIA project aims to make tangible progress toward Schiermonnikoog's sustainable future, setting a model for other island communities navigating the complexities of the green transition.

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