

## **Student Sustainable Entrepreneurship in Action: UNIC Methodology and Innovation Gaps on Bornholm, Denmark 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 circular economy transitions. This paper specifically addresses WP4, led by Østfold University College. When referring to the FREIIA project in this context, it is WP4 that is being examined.*

*The following paper describes the first phase conducted in Bornholm, Denmark, which focused on identifying innovation gaps through interviews conducted by students with stakeholders from public, private, and civil sectors. Key challenges included the island's dependence on tourism, the need for circular economy initiatives, seasonal economic fluctuations, youth migration, and limited cross-sector collaboration. These insights, gathered using UNIC and Design Thinking principles, will serve as the foundation for the next phase, where Co-creation workshops will develop tailored solutions to address the identified gaps.*



*(Students on the ferry from Ystad to Rønne.)*

## Introduction

As part of the FREIIA project on Bornholm, a field study was conducted from February 28 to March 1, 2024, to examine the current and desired state of the island community, as well as the challenges it faces. The interviews were carried out on February 29 and March 1, 2024, capturing the voices and perspectives of local stakeholders. Rather than providing a detailed analysis, this document presents raw and unfiltered data, ensuring that stakeholders' experiences and concerns are conveyed in their own words.

The interviews included a diverse group of stakeholders from across the community, representing the public sector, private businesses, NGOs, local residents, and politicians. A systematic mapping process was used to identify participants based on their roles, expertise, and relevance to the project's themes. This method ensured an inclusive and representative sample, providing a holistic understanding of the challenges and opportunities faced by the Bornholm community.

By focusing exclusively on the transcriptions, this document preserves the integrity of the participants' viewpoints, allowing their stories to form a foundation for future research, policymaking, and community-led initiatives. It is intended for policymakers, researchers, and community members seeking a detailed and honest understanding of the dynamics, priorities, and potential of life on Bornholm, with a focus on sustainable and innovative development.

## Bornholm

Bornholm is a Danish island and municipality in the Baltic Sea, located 170 kilometers from Copenhagen and 40 kilometers southeast of Skåne, Sweden. The island has been part of Denmark since 1658 and includes the Ertholmene archipelago. Covering 588.5 km<sup>2</sup>, Bornholm features diverse landscapes, including granite bedrock in the north, sandy dunes in the southeast, and fertile farmland in the south. Its highest point is Rytterknægten at 165 meters above sea level.

As of 2024, Bornholm has a population of 39,332, with Rønne (13,759) as its largest town and administrative center. The island's economy relies heavily on tourism and agriculture, particularly livestock farming and fishing. Bornholm is known for its cultural traditions, including smoked herring and ceramics. Tourism plays a vital role, attracting visitors to landmarks such as Hammershus, Northern Europe's largest medieval fortress, and the round churches from the 12th century.

Despite modern transport connections, including flights to Copenhagen and ferries to Sweden, Germany, and Poland, Bornholm faces challenges such as an aging population, youth migration, and a seasonal economy, making sustainable development strategies crucial for its future. (Pihl, 2024).



## 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 Hvaler. 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 Bornholm 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. (NTNF. 1989, 28. mars. Strukturerte intervjuer (Teknikknotat nr 4). NTNF.

### 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 Bornholm was the third implementation of this methodology within the FREIIA project. Building on lessons learned during the pilot study on Hvaler and the second implementation on Schiermonnikoog, the process was adapted to address the specific dynamics of the Danish island community. Østfold University College (HiØ), in collaboration with Aalborg University, and BOFA (local waste management and project partner) facilitated this phase.

### **Stakeholder Engagement and Interview Process**

On Bornholm, establishing a diverse and representative stakeholder network was essential. This differed from Hvaler, where existing relationships facilitated access. On Schiermonnikoog, insight into the project was greater, partly because it was written by the Dutch and partly because the island had two project partners: the Naturpreceve company and the municipality, which played a key role in outreach. Bornholm, therefore, faced a different kind of challenge. To ensure a broad spectrum of perspectives, we aimed to work closely with BOFA to identify and recruit stakeholders from various sectors. From the outset, we emphasized the importance of gathering diverse viewpoints rather than focusing on a single issue, ensuring that the findings would reflect the full range of challenges and opportunities on the island.

Recognizing the value of spontaneous interviews, we also prepared students for stunt interviews, encouraging them to actively seek out additional perspectives beyond the pre-arranged meetings. This helped capture unexpected insights and ensured that a wider cross-section of the community was represented.

Over two days, interdisciplinary teams consisting of Norwegian and Danish students from HiØ and Aalborg University conducted 17 interviews. Each team, composed of two to three students, carried out semi-structured interviews in Danish or English, depending on stakeholder preference. This approach not only facilitated a richer data collection process but also fostered collaboration between students from different academic backgrounds and nationalities.

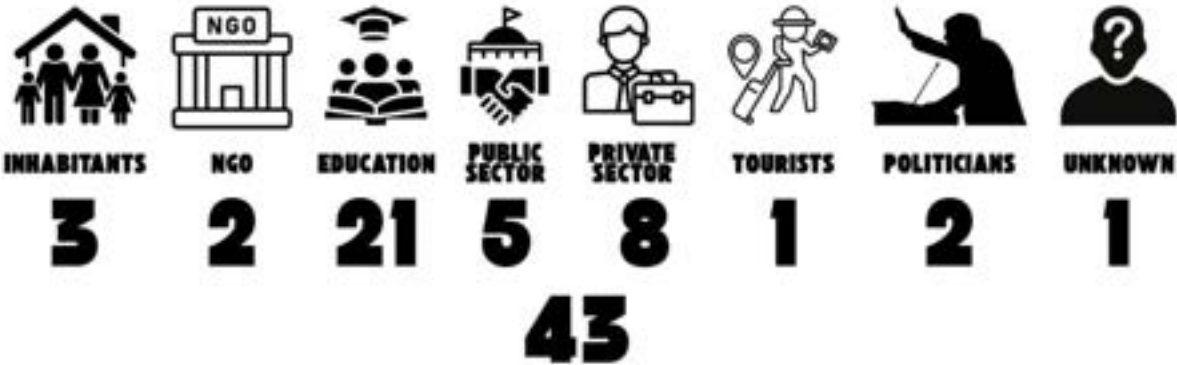


*(Norwegian and Danish student team out on interview round on Bornholm.)*

## Data Collection and Methodology

The interviews were guided by a standardized framework of eight semi-structured questions used consistently across all islands in the FREIIA project. These questions targeted the challenges, needs, and aspirations of the island community while allowing flexibility for respondents to share unique insights. The interdisciplinary teams were encouraged to perform spontaneous “stunt interviews” during their fieldwork, capturing unplanned but valuable input from residents and visitors. This time, the students were prepared well to perform these stunt interviews, researching in advance the different stakeholder possibilities to seek out.

All interviews were recorded and securely stored using designated data management systems SIKT. Following transcription, the data was anonymized and subjected to thematic analysis by students. This systematic approach ensured that the findings were both comprehensive and aligned with the objectives of the UNIC method. *(Sikt – Kunnskapssektorens tjenesteleverandør | Sikt, u.å.)*



(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 Bornholm)



Over a two-day period, student teams traveled across the island to meet stakeholders in their own environments, such as businesses, municipal offices, and local landmarks. A detailed schedule was developed to ensure effective time management and maximize participation. The list included locations and scheduled times where stakeholders were set to meet with the teams, ensuring an organized and efficient interview process.

The process involved semi-structured interviews, following the same predefined format applied across all islands in the FREIIA project. This standardization allowed for consistency in data collection while leaving room for participants to share personal insights and experiences.

*(Students travelled by bicycle to interview stakeholders all over the island.)*

## World Café Session

Following the interviews, a World Café session, a structured dialogue method that fosters open and collaborative discussions, was organized the last day. («(PDF) The “World Café” as a Participatory Method for Collecting Qualitative Data», 2025) This provided opportunities for the Norwegian and Danish students to come together and reflect on the outcomes of the workshop. During this session, students shared their perspectives and experiences, discussing the collaborative process and the insights gathered the previous days. Here, the students get a chance to build on their understanding of their insight, and to corroborate their data. 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 a more complex understanding of the challenges the island faces.



*(Danish and Norwegian students during world cafe reflection session following interviews.)*

## Results

The initial phase of the FREIIA project on Bornholm identified key challenges and opportunities for sustainable development through a comprehensive analysis of community dynamics. By conducting interviews and workshops, the project gathered diverse perspectives, offering valuable insight into both structural barriers and emerging opportunities. These findings will serve as a foundation for co-creating practical solutions in the upcoming workshops.

Key findings from Bornholm Interviews:

1. **Dependence on Tourism** – Bornholm's economy is heavily reliant on seasonal tourism, leading to economic instability outside peak seasons. Many businesses close during the off-season, significantly reducing job opportunities and economic activity. While tourism is a key driver of the local economy, this dependence creates challenges for long-term sustainability, as businesses struggle to generate revenue year-round. Some entrepreneurs have attempted to diversify their operations by offering year-round services or targeting niche markets, but these efforts remain limited by seasonal fluctuations in visitor numbers.
2. **Challenges with Innovation and Sustainable Development** – While Bornholm has a growing number of innovative businesses, including those focused on local product sales and international distribution, many entrepreneurs find it difficult to introduce new initiatives. Several stakeholders cited resistance to change within the local community, making it harder for novel ideas and business models to gain traction. Regulations, bureaucratic hurdles, and local skepticism toward new approaches also present barriers to innovation. However,

despite these challenges, there is strong potential for sustainable development, with many businesses actively seeking ways to improve their environmental impact and expand beyond seasonal tourism.

3. **Lack of Activities and Services Outside Peak Seasons** – The limited infrastructure and social offerings during the off-season negatively impact both permanent residents and potential visitors. Many businesses, restaurants, and cultural venues close for several months, leaving few options for those who live on the island year-round. This lack of services also discourages potential newcomers, particularly young professionals and families, from settling on Bornholm. Some local initiatives have aimed to extend cultural and recreational activities throughout the year, but sustaining these efforts remains a challenge due to economic constraints and fluctuating demand.
4. **Youth Migration and Limited Return** – Many young residents leave the island for higher education and employment opportunities on the mainland, with only a fraction returning. High housing costs, limited career prospects, and a lack of professional networks make it difficult for young people to establish themselves in Bornholm after completing their studies. However, some returning residents have successfully started businesses, leveraging their Bornholm identity and local resources to create niche markets. To retain young talent, targeted initiatives such as affordable housing projects, business incentives, and local career development programs could help make the island a more attractive long-term option for young professionals.
5. **Lack of Coordination and Collaboration** – Despite Bornholm's strong sense of local identity, cooperation between public, private, and civic sectors remains fragmented. Many stakeholders acknowledge the need for improved collaboration, yet structured platforms for cross-sector interaction are missing. While some organizations and business clusters have formed to support entrepreneurship and sustainable development, more formalized networks and support structures are needed to foster long-term collaboration. Stakeholders expressed interest in creating spaces for regular dialogue and cooperation, potentially through innovation hubs or expanded municipal initiatives that bring different actors together.

Local business owner:

*"In the summer, everything is happening. But when the season ends, it's like the island takes a deep breath, and everything slows down."*

– Highlights the economic instability due to seasonal tourism.

Shop owner:

*"Our biggest challenge is online shopping. The physical stores need to step up, but it's hard when so much of the income relies on the summer months."*

– Demonstrates the reliance on seasonal tourism and the struggle for local businesses.

Local entrepreneur:

*"We often run into roadblocks when trying to expand or develop something new. It's frustrating because we see potential, but approvals take forever."*

– Describes bureaucratic barriers that hinder innovation and growth.

Local politician:

*"We have a strategy, we have a climate plan—but plans don't change anything unless we act on them. And funding is always a challenge."*

– Highlights the gap between planning and action in sustainable development.

Resident:

*"In the summer, it's amazing. There are concerts, restaurants, life. But in winter? There are only a few places open, and social life almost disappears."*

– Reflects on the lack of year-round infrastructure and services.

Business owner:

*"If we could spread tourism across the year instead of cramming everything into the summer, it would change everything. But people just don't come in winter."*

– Emphasizes the challenge of creating year-round economic activity.

Local journalist:

*"The young people leave for education and never return. We need more opportunities, but attracting businesses is difficult when the workforce keeps shrinking."*

– Highlights the ongoing challenge of youth migration.

Local politician:

*"We have some of the lowest incomes in Denmark and a growing elderly population. If we don't make Bornholm attractive for young families, we're in trouble."*

– Points out the demographic and economic struggles of retaining young residents.

Community leader:

*"Many businesses want to collaborate, but there's no real structure for it. We need platforms that actually connect people across industries."*

– Identifies the need for better coordination between stakeholders.

Entrepreneur:

*"We've become better at helping each other, but too often, small businesses feel isolated. If we had stronger networks, we could achieve much more."*

– Stresses the importance of better collaboration for economic and social development.

These insights, based on interviews conducted on Bornholm, April 2024, highlight the key challenges facing Bornholm while also establishing a strong foundation for the next phase of the FREIIA project. Moving forward, stakeholders and students will collaborate to develop innovative solutions tailored to these challenges through a co-creation process based on Design Thinking principles.



(Students on business visits.)

## Reflection and Findings for project improvement

Building on experiences from previous islands, we (the leader team from HiØ) conducted several pre-visit online meetings with project partners from BOFA. From our earlier work, we had learned that cultural and language differences, combined with varying work package objectives, could lead to misunderstandings regarding the purpose and scope of our activities on each island.

To mitigate this, we aimed to clarify our role early in the process by emphasizing that our primary task was to collect data in a structured and consistent manner across all partner islands. This involved conducting semi-structured interviews with diverse stakeholders, transcribing and analyzing the data, and then organizing a Design Thinking-based co-creation workshop. The purpose of the workshop was to collaboratively address the key findings from the interviews, ensuring that solutions were developed within the resources and realities of each island community.

Despite our efforts, a key challenge arose in aligning expectations with local project leaders. In our preliminary meetings, we outlined our methodology, emphasizing our role as data collectors and facilitators rather than advocates for any specific agenda. However, these meetings were conducted with a newly appointed project leader at BOFA rather than their main project leader. In hindsight, this lack of direct communication with the primary decision-maker resulted in a disconnect between expectations. Upon arriving in Bornholm, it became clear that BOFA had expected a stronger focus on waste management, particularly in relation to construction sites, as this aligned with BOFA's core objectives. However, as with all partner islands, our role was not to advance local stakeholder priorities but rather to objectively identify innovation gaps across various sectors. This misunderstanding underscores the importance of ensuring that pre-visit meetings are held with key decision-makers who have a comprehensive understanding of both their own objectives and the overarching FREIIA project structure.

Additionally, the fact that we were students may have contributed to this misalignment. While we clearly define roles and responsibilities, it is possible that our input was not fully acknowledged at the decision-making level. This highlights a broader challenge in student-led research projects, which is ensuring that student project leaders are taken seriously by professional partners. Had we engaged directly with BOFA's project leader from the beginning, we could have avoided much of the confusion and potential misalignment of expectations. This experience reinforces the necessity of thorough role clarification at multiple levels within partner organizations, ensuring that all stakeholders understand the FREIIA project's core mission. Our job is to gather data, analyze findings, and foster innovation based on objective insights rather than predefined local agendas.

### Insights and key takeaways

We arrived well-prepared, incorporating lessons from Schiermonnikoog and Hvaler. Before our visit, we held multiple meetings with BOFA to establish a clear approach. Despite this, cultural or linguistic differences may have contributed to misunderstandings.

Students worked in pairs—one Norwegian and one Danish—and conducted both pre-booked and spontaneous "stunt interviews" with a more informed approach. Unlike previous iterations, they had familiarized themselves with the project and key stakeholders in advance, making them better equipped to identify relevant interview opportunities.

Using standardized interview questions in combination with both planned and spontaneous interviews proved highly effective in gathering diverse data. This aligns with the UNIC method, which emphasizes collecting perspectives from a broad range of stakeholders while maintaining consistency. On Bornholm, students were briefed on conducting spontaneous interviews and had researched potential interviewees beforehand.

Students traveled by bicycle or bus to meet stakeholders, leading to a diverse range of interviews. A significant number of interviewees were local shop owners, as Bornholm has many privately owned, community-based businesses, which naturally became an integral part of the data collection process.

Despite these strengths, certain limitations were observed:

- **Underrepresentation of Key Groups** – Younger residents and seasonal workers were underrepresented, creating gaps in the analysis.
- **Time Constraints** – The limited timeframe restricted follow-ups and in-depth exploration of complex issues.
- **Communication and Coordination Challenges** – Initial misalignment with stakeholders highlighted the need for clearer pre-interview communication to align project objectives with local expectations.

### Key Takeaways for Future adaptation

- Engage directly with key decision-makers from the outset to ensure shared expectations.
- Expand training for student researchers to enhance credibility and clarity in fieldwork.
- Develop broader outreach strategies to capture a more diverse range of perspectives.
- Extend data collection periods to allow for deeper engagement and follow-ups.



By refining pre-interview coordination and ensuring engagement with the correct stakeholders, future iterations of the project can improve alignment between research teams and local partners, leading to smoother collaboration and more effective outcomes.

*(Students in Bornholm.)*

### Discussion

The findings from the first phase of the FREIIA project highlight several significant challenges and opportunities for Bornholm's sustainable development. Among the key challenges is the dependence on tourism, which leads to economic instability during the off-season. As highlighted in the interviews, many businesses close during the low season, significantly reducing job opportunities and overall economic activity. Although some efforts have been made to diversify by offering year-round services or targeting niche markets, these attempts are still limited by seasonal fluctuations. This underlines the need for long-term economic strategies that reduce reliance on seasonal tourism and create stable, year-round job opportunities.

Another major challenge identified is the difficulty in innovation and sustainable development. Despite having a growing number of innovative businesses, several stakeholders expressed frustration with the resistance to change within the local community. This makes it harder for new initiatives and business models to gain traction. Local regulations, bureaucratic hurdles, and skepticism towards new approaches were often cited as barriers to innovation. However, despite these challenges, there is strong potential for sustainable development, with many businesses actively seeking ways to reduce their environmental impact and expand beyond seasonal tourism.

Youth migration and limited return is another significant issue. Many young people leave Bornholm for education and job opportunities on the mainland, with only a small fraction returning. High housing costs, limited career prospects, and a lack of professional networks make it difficult for young people to settle back on the island. Targeted initiatives, such as affordable housing, local business incentives, and career development programs, are essential to making Bornholm an attractive place for young professionals to build their futures.

Although these challenges are considerable, Bornholm benefits from a strong local engagement and a distinct cultural identity. Leveraging these strengths while addressing the identified gaps will be crucial in shaping a resilient and innovative future for the island.

## **Conclusions**

The initial analysis of the FREIIA project on Bornholm has provided valuable insights into the island community's challenges and opportunities for sustainable development. By applying the UNIC method and Design Thinking principles, the project identified key gaps, including limited cross-sector collaboration, economic reliance on tourism, and difficulties in retaining young residents. These findings emphasize the need for targeted efforts to foster collaboration, diversify economic opportunities, and create an environment that retains and attracts the next generation of professionals and create long-term strategies for sustainability.

Bornholm's heavy reliance on seasonal tourism remains a significant vulnerability. The challenge of diversifying the economy to create stable, year-round employment opportunities is clear. To achieve this, a unified effort across public, private, and civic sectors is necessary. Stakeholders have expressed the need for structured collaboration through innovation hubs and business networks, which could serve as platforms for long-term, sustainable growth.

The issue of youth migration stands out as a pressing concern for the island's demographic future. The findings underscore the importance of offering young residents affordable housing, career pathways, and local business incentives to create an environment where young professionals can thrive. Without these measures, Bornholm risks continued population decline and the loss of vital talent.

Despite these challenges, Bornholm has unique strengths that could guide its path to a sustainable future. The island's strong local identity and the engagement of its community offer a solid foundation for development. Moreover, the growing interest in sustainable businesses and environmental innovation presents a tremendous opportunity. To capitalize on these strengths, however, Bornholm must overcome barriers to innovation and foster a culture that embraces change.

This phase of the FREIIA project has laid the groundwork for tangible solutions, and the next steps, design thinking based co-creation workshops with local stakeholders, offer an exciting opportunity to directly engage the community in shaping their future with these challenges in mind. These workshops will be pivotal in crafting solutions that align with Bornholm's needs, ensuring the community drives its own sustainable development.

Ultimately, the findings from this phase are not only crucial for Bornholm but also have the potential to serve as a model for other island communities across the North Sea region. This research-driven, collaborative approach could inspire new strategies for sustainable development in island economies globally. With the right focus, Bornholm can transition from a seasonal tourist destination to a thriving, year-round community at the forefront of sustainable innovation.



(One of many white beautiful beaches on Bornholm)

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