



**Case-study report on
Insekteriet – sustainable
education through social
enterprise**

January 2026

Social Bugs

Partners

Bugging Denmark

Aproximar - Cooperativa de Solidariedade Social, CrI

European Strategies Consulting

Inagro, provinciaal extern verzelfstandi gd agentschap in privaatrechte lijke vorm vzw

Kobenhavns Universitet

Author:

University of Copenhagen, with inputs from Bugging Denmark

Acknowledgement:

We would like to thank Kirsten Sterling, Project Manager in Insekteriet for providing valuable insights to the case-study in this report.

Project coordinator:

Bugging Denmark

Publication date:

31 January 2026

Project number:

2024-1-DK01-KA220-VET-000251164

Co-funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or the European Education and Culture Executive Agency (EACEA). Neither the European Union nor EACEA can be held responsible for them.

This case study is based on an expert interview kindly agreed to by Kirsten Sterling, Project Manager in Insekteriet, combined with publicly available information on the Insekteriet project website

1. Criteria for selecting case study

Insekteriet is a Danish initiative run by Bugging Denmark, that features an educational insect-farming program where students raise edible insects (mealworms) in small “mini-farms”. While the program is directed at Danish public schools in general, it has over the years frequently featured activities in special education schools for mentally vulnerable children that align well with SSE principles. While the insects grow over 3-4 weeks, learners are taught about sustainable food production, climate impact, and the farm-to-table cycle.

The project Insekteriet is structured as a public-benefit project (not-for-profit), meaning that all funding raised for its activities are invested into its educational purposes rather than private gain. The program focuses on fostering curiosity and as well as skills, and the recipients, students in the Danish primary education system including vulnerable youth, benefit from hands-on learning in a new green industry.

Insekteriet illustrates SSE in practice through community-cantered development, equitable participation and environmental sustainability. Its main objectives are to improve educational outcomes, tangible skills and well-being for students (including special-needs students) through insect farming, to promote sustainable food habits, and to strengthen social inclusion by building confidence and skills among disadvantaged youth.

2. Background of the case study

Modern education faces the challenge of engaging all students in STEM (science, technology, engineering, and math) learning, especially as society grapples with complex issues like climate change and technological change. Yet many youths find STEM subjects abstract or unrelatable, leading to disengagement over time. In Denmark and elsewhere, studies show a decline in students’ interest in science and math during adolescence, which contributes to fewer young people pursuing science pathways and exacerbates skill shortages. There is a clear need for new approaches to STEM education that make learning more tangible, relevant, and inclusive, so that more students – regardless of background – stay interested in science.

Traditional teaching methods often struggle to reach students who don’t thrive in lecture-and-textbook settings. This is especially true for vulnerable or disadvantaged learners, such as those with learning difficulties or from under-resourced communities. Many special education students, for example, have limited access to high-quality science experiences; their lessons are frequently watered down or focused on rote learning, which can leave them disengaged. In practice, when science is made concrete – through experiments, real-life examples, and tactile activities – students of all abilities are more likely to connect with the material. They become active learners rather than passive observers, which is a key step toward improving STEM outcomes for those who might otherwise be left behind.

Insekteriet was developed in response to these educational needs. Launched in 2019 by the social enterprise Bugging Denmark, Insekteriet is an innovative project that brings edible insect farming into schools as a teaching tool. Over a 3 to 4 week program, students raise mealworms in small classroom farms, observing the insects’ life cycles from egg to adult. As the insects grow, the class engages in experiments and discussions about biology, ecology, and food sustainability – for instance, measuring

how well the mealworms consume various feed sources, and comparing their environmental footprint to traditional livestock. Abstract concepts like ecosystems, resource efficiency, or the food cycle become tangible: children can see and touch the organisms involved, making science and environmental education feel real. This farm-to-table approach culminates in the students harvesting the insects and even cooking a meal with them, bridging theoretical learning and practical application.

Bugging Denmark secured grants and partnerships with local municipalities and science centre's so that schools could participate free of charge. This ensured that even schools with limited resources, including special education schools, could join. This illustrates the project's community benefit and accessibility.

3. How Insekteriet works

Insekteriet aims to provide a novel approach to STEM education as a hands-on program for schools, teaching sustainability and “farm-to-table” concepts with edible insects.

The program was piloted in 2019 and launched widely in 2020 after receiving funding from the Novo Nordisk Foundation. With local government support, especially Copenhagen's Open School (“Åben skole”) program, the project expanded through partnerships with regional science centers and education networks. By 2023, Insekteriet had reached thousands of students across Denmark. The project is on target to reach 360 school classes in 2025 alone.

Insekteriet operates as a 3 to 4 week in-school course. Classes receive “mini-insect farm” kits with mealworm larvae, care instructions, and support from educators or facilitators. Students are involved in every step: feeding the insects (often with food waste, demonstrating circularity), keeping habitats clean, and observing the insect life cycle. The curriculum combines science, math, environmental studies, and even language arts. Students decide on experiments (for example, which food scraps to use for feed) and co-create classroom activities. They compare insects' resource use with that of traditional livestock, learning about insects' lower environmental impact and see firsthand how food waste becomes insect feed, and frass (insect droppings) can be used as fertilizer, which provides a practical lesson in closed-loop systems.

The project ends with harvesting and preparing the insects. Students bake mealworm cookies or chili-con-mealworms or host tasting events, often inviting the wider school community.

Some classes continue insect-rearing or start small initiatives (like selling frass fertilizer), suggesting a longer lasting impact.

While Insekteriet is mainly used by 8–15-year-olds, it can also be used by older students in a special education setting. By the end of 2025, the initiative is expected to have reached more than 12,000 students. One-hundred-seventy to 200 of these are special needs students, with approximately 5% of school classes served being special ed classes – a Danish school class has 21 pupils on average, while there are typically only 6-7 pupils in a special ed class.

Insekteriet serves vulnerable children and non-traditional learners by design. The program's activities are highly concrete, visual, and interactive – elements known to support students who struggle in normal classroom settings. By offering multiple ways to participate and allowing students to engage at their own pace, the program ensures that all forms of participation are legitimate and valued. The idea is to foster a safe and inclusive environment where children who typically have difficulty concentrating or communicating become involved in caring for the insects. The simple

routine of feeding and checking on the creatures each day provided structure and a sense of responsibility. Students who are hesitant to touch insects can still engage through observation or related tasks, and this legitimacy of varied participation fosters confidence and inclusion. Teachers note that even initially hesitant students become active participants and report calmer behaviour and genuine excitement. However, there should still be room for students to decide on their own level of participation – or not participate at all. This allows students with various challenges (autism, ADHD, language barriers, etc.) to participate on an equal footing with others. For example, a non-verbal student can help measure insect feed with a scale – a task of value to the group – even if that child does not participate in a traditional discussion-based lesson.

Bugging Denmark runs Insekteriet as a not-for-profit venture, with a team including a project leader, a few instructors, and collaborating teachers. Grant funds cover the cost for participating schools. The program's approach means curriculum design and feedback are collaborative, with direct input from teachers, educational experts, and public partners.

Insekteriet is therefore grounded in both a broader educational innovation context and a commitment to social inclusion. The project addresses a recognized gap in STEM education by making science hands-on and relatable, and it deliberately extends these benefits to students who often miss out on cutting-edge learning experiences. By combining sustainable insect farming with an inclusive teaching model, Insekteriet exemplifies how a social enterprise can complement the formal education system.

4. Criteria for selecting the social enterprise

Bugging Denmark is an urban insect farm producing crickets and mealworms. As such, Bugging Denmark operates firmly in the edible insect farming sector while having an explicit social mission of inclusive education and increasing awareness of alternative protein among the public.

That said, Bugging Denmark is a private company (in Danish *enkeltmandsvirksomhed*) and the company structure prevents registration as a Registered Social Economic Enterprise RSV. However, Bugging Denmark operates projects, such as Insekteriet, that are strictly non-profit, meaning that all funding associated granted to the project goes to address the social mission of the project. For instance, funding granted to Insekteriet is solely dedicated to developing and running the project's teaching activities.

5. Compliance of the project with SSE

Insekteriet was chosen as a case study for social bugs, since it aligns with the SSE criteria defined for Social Bugs. However, we are mindful that some aspects may not be typical for social economy - i.e. that Bugging Denmark is a private company, not registered as an RSV.

5.1. Operates in the insect farming sector:

Bugging Denmark is at its core an insect farm and therefore operates in the edible insect farming sector. As such, Insekteriet's activities also center on edible insect farming, since the project develops learning programs where students raise their own mealworms in small school farms. Throughout this hands-on insect cultivation (from nurturing larvae to harvesting insects for food) the students gain an understanding of insect farming and the insect farming sector.

5.2. Explicit social mission as primary objective

Insekteriet is driven by a social and educational mission. Its primary goal is to teach children – including those from vulnerable groups – about sustainable food production and science. It is defined as a public-benefit project with the main purpose to deliver public good in the form of high-level education, and societal and sustainability awareness. This explicit social/environmental mission is at the core of project activities.

5.3. Reinvests profits for a social/environmental purpose

While Insekteriet is housed by Bugging Denmark, a private company, Insekteriet as a project operates on a not-for-profit model. It operates with grant funding (currently support from the Novo Nordisk Foundation) and all funds are dedicated to promoting the core project mission and are not distributed as profits. Importantly for Insekteriet to comply with this core criteria as an SSE project, the dedication of all funds to project activities such as providing free materials to schools, developing better curriculum, and extending the project's reach, is legally binding and a prerequisite for the external funding granted by the Novo Nordisk Foundation.

5.4. Involves vulnerable or disadvantaged groups

Insekteriet actively involves vulnerable and disadvantaged children in its teaching activities by working with special education schools and classes, engaging mentally vulnerable children and those with learning challenges. Insekteriet's experience shows that vulnerable children (such as those from other language families and mentally vulnerable children) are often at least as enthralled by insect farming as other students.

5.6. Practices inclusive and participatory governance

The daily operations of Insekteriet are run by Bugging Denmark, but the project exhibits some participatory governance traits. The program is delivered through partnerships – Bugging Denmark collaborates with schoolteachers, local nature centres, and science education networks to co-create and run the program. Teachers and partners have input on how the project is implemented in their schools, and the content is adapted based on feedback from these stakeholders. This collaborative approach mirrors inclusive governance, where multiple voices (educators, students, community partners) shape the project's development.

5.7. Registered under a social enterprise-oriented legal form

As mentioned above, Bugging Denmark is a private company, not a cooperative or foundation, and is not registered as an RSV. However, Insekteriet itself operates in a public-benefit capacity. It is run as a non-profit initiative under the company's umbrella. While not a separate legal entity, its status as a public-benefit project signifies a binding commitment to public benefit. This means it cannot distribute profits and must serve a charitable purpose, aligning it with the intent of a social enterprise legal form.

That said, the fact that Insekteriet is a non-profit project run by a private company does call for consideration of at what point projects can be considered SSE and may place Insekteriet in a “grey zone” as to whether Insekteriet is truly an SSE project. For instance, some altruistic foundations do not grant funding to projects run by private companies and would therefore by principle rule out supporting Insekteriet.

5.8. Measures and reports social impact

Insekteriet tracks its impact. The team gathers qualitative and quantitative feedback to evaluate outcomes – for instance, recording the number of students reached and collecting teachers’ observations on student engagement and learning progress. They document stories of student development (such as increases in confidence or interest in science among participating youth) and share these results with funders and partners. This practice not only demonstrates accountability to its mission, but also allows for continuous improvement of teaching materials

6. Major challenges and lessons learned

6.1. The “Yuck” factor

Cultural aversion to insects as food was expected to be an obstacle. Some students (and teachers) were initially uncomfortable with handling insects or eating them. This was expected to be particularly true for students at special education schools where a safe and predictable environment is strived for and anything out of the ordinary is best introduced gradually.

Approach: The team used gradual exposure. Initial sessions focused on care rather than consumption. Scientific context and group tasting events reframed insects as nutritious, sustainable food, while making participation optional. Positive peer experiences turned reluctance into curiosity for many students. Importantly, the program emphasized that all participation forms are valid. Students could choose not to touch or eat insects and still be fully included in the learning experience. However, especially at special education schools, it proved important to accept that some students simply were not comfortable with the program – as is the case with all activities at special education schools, not only those that involve edible insects. This reaction must be accepted to allow the students to prioritize their mental well-being.

Lesson learned: Exposure, education, and hands-on experiences can shift cultural perceptions. Framing new ideas in familiar contexts - like making chili-con-mealworms - helps overcome psychological barriers.

6.2. School capacity and logistics

An initial risk was thought to be that teachers would feel unprepared to manage insects in the classroom or worried about time and infrastructure demands.

Approach: Insekteriet addressed this via plug-and-play kits, guides - both printed and online video guides - and person-to-person support over the phone. Shipment of insects were made in accordance with the individual need of the classes that used the teaching unit. The program was designed to fit with existing curricula.

Lesson learned: Perhaps the most important learning to come out of Insekteriet is that teaching lessons should make the life of teachers easier, not require extra work for implementation. The program’s flexibility and visual structure allow teachers to adapt lessons to their students’ needs, especially in special education settings where responsiveness and structure are crucial. This important step grants access to the general population of teachers, not only to the ones that are particularly dedicated to STEM or with a pre-existing interest in edible insects. Reducing the burden on educators and aligning with existing school routines is crucial for adoption. Responsive support and curriculum integration enable broader participation.

6.3. Steady supply of insects

It was the original intention of Insekteriet to source mealworms, pupae and larva from 3rd party mealworm producers. However, suppliers were either unable to deliver in the necessary quality or closed down their business in the project period.

Approach: To accommodate the need for mealworms at Insekteriet, Bugging adjusted its production from producing crickets to producing mealworms.

Lesson: It is risky to allow the success of a project to rely on deliveries from 3rd party or have a supply chain without inbuilt redundancy or – even better – to have capabilities in-house or within the project consortium.

6.4. Financial and operational sustainability

As with many non-profit projects, Insekteriet is dependent on third-party donors for its operation. This becomes particularly critical since Insekteriet's teaching program is hardware heavy and deals with living animals. As such, it demands storage and continued production of mealworms.

Approach: The project documented its impact and strives for excellence, to warrant future funding, while also exploring multiple funding sources. Also, strong partnerships add to the capabilities of the project and therefore future growth and impact.

Lesson learned: Impact measurement, quality and partnerships are critical for sustainability and can support future growth without diluting mission or quality. Redundancy can be recommended not only in implementation, but also in financial support. Time will tell whether this strategy will be successful.

7. Conclusion

Insekteriet illustrates how innovative, socially driven projects in emerging sectors can embody SSE values and generate social and educational impacts. By meeting core SSE criteria, the project illustrates that social enterprises may take unconventional forms - like education programs with insect - while advancing sustainability and inclusion.

By learning from start-up enterprises, Insekteriet has focused on delivering a scalable teaching unit, that can be delivered by teachers without the physical presence of the project staff in the classroom. This allows for much wider distribution of the program.

This goal of scalability is further strengthened by the project being non-profit, since teaching materials and instructions can be placed online and accessed by teachers for free instead of being protected IP only being shared with those who can afford it. The project can therefore dedicate itself to delivering maximum value to schools (including special education schools) and allow teachers to deliver with quality.

The open-access design ensures all participants, particularly marginalized groups, have equitable access to learning and development. This makes project outcomes democratic and inclusive.

Together, these points result in a wide distribution of the teaching unit. This may in turn transform attitudes toward edible insects, boost science literacy, and foster community engagement.



Agreement number: 2024-1-DK01-KA220-VET-000251164

Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or the European Commission. Neither the European Union nor the European Commission can be held responsible for them.



2024-1-DK01-KA220-VET-000251164

