Co-funded by the Erasmus+ Programme of the European Union

Ref. Ares(2023)4048788 - 10/01/2024

S.E.VET
SOCIAL ENTREPRENEURS

S.E.VET (SOCIAL ENTREPRENEURSHIP VOCATIONAL EDUCATION AND TRAINING PROGRAM – Capacity Building Program

Coordinated by: EUROTraining, Greece, 2024

Case Studies: Real-World Examples of Successful Social Entrepreneurship in the Engineering Sector

Name of the Partner: BEP	
Case Study 1: ECOLOO - Sustainable Sanitation Solutions	
Background:	ECOLOO is a social enterprise that designs and manufactures eco-friendly sanitation systems. Founded in Malaysia, ECOLOO focuses on providing sustainable and affordable toilets that require no water, chemicals, or energy. The company's mission is to improve sanitation and hygiene in underserved communities, reduce water usage, and convert human waste into valuable resources such as organic fertilizer.
Problem Statement:	Globally, over 2.5 billion people lack access to proper sanitation facilities, leading to health issues and environmental pollution. Traditional sanitation systems are often costly, water-intensive, and environmentally damaging.
Solution:	ECOLOO developed a waterless, odorless toilet system that uses a natural biological process to treat human waste. The system converts waste into organic fertilizer that can be used for agriculture, thus promoting a circular economy.
Impact:	• Installed over 3,000 units in 21 countries, benefiting over 1 million people. • Significant reduction in water usage and environmental pollution. • Improved health and hygiene conditions in schools, rural areas, and disaster-stricken regions.
Analysis:	ECOLOO's success lies in its innovative technology, commitment to sustainability, and scalable business model. By addressing a critical social issue with an engineering solution, ECOLOO demonstrates how social entrepreneurship can create tangible benefits for communities and the environment.
Main Task: Develop a strategy to expand the reach and impact of ECOLOO's sustainable sanitation systems in Armenia. **Activities and To-Dos:**	1. **Research:** Investigate the current state of sanitation in Armenia, particularly in rural and underserved areas. 2. **Needs Assessment:** Identify specific communities or regions in Armenia that would benefit most from ECOLOO's solutions.

	3. **Strategic Planning:** Create a plan for deploying ECOLOO systems in these identified areas, including logistics, funding, and community engagement. 4. **Partnership Development:** Identify potential local partners (NGOs, government agencies, businesses) to collaborate with on the project. 5. **Impact Projection:** Estimate the potential health, environmental, and economic benefits of implementing ECOLOO systems in these areas. 6. **Presentation:** Prepare a presentation outlining your strategy and expected impact, ready to pitch to stakeholders.
Case Study 2: d.light - Solar Energy Solutions **Background:**	d.light is a global social enterprise founded by Sam Goldman and Ned Tozun. It aims to provide affordable and reliable solar energy solutions to the 1.3 billion people without access to electricity. d.light manufactures and distributes solar lighting and power products designed for off-grid households and businesses.
Problem Statement:	In many developing regions, lack of access to electricity hinders economic development, education, and quality of life. People often rely on harmful and expensive kerosene lamps for lighting.
Solution:	d.light designs and markets solar-powered products, including lanterns, home lighting systems, and solar panels. These products are durable, affordable, and capable of providing clean energy to off-grid communities.
Impact:	• Over 100 million lives impacted in 70 countries. • Reduced reliance on kerosene, leading to improved indoor air quality and health. • Enhanced productivity, education, and economic opportunities through extended hours of light.
Analysis:	d.light's approach combines engineering innovation with a deep understanding of customer needs in off-grid areas. Their scalable distribution model and focus on affordability make their solutions accessible to the poorest communities, showcasing the power of social entrepreneurship in addressing global energy challenges.
Main Task: Design a market entry strategy for d.light to introduce its solar energy solutions in Armenia. **Activities and To-Dos:**	1. **Market Analysis:** Conduct a market analysis to understand the energy needs and challenges in Armenia, especially in off-grid and rural areas.

	2. **Customer Profiling:** Identify the target customer segments for d.light's products. 3. **Competitive Analysis:** Research existing competitors and alternative solutions in the Armenian market. 4. **Go-to-Market Strategy:** Develop a comprehensive go-to-market strategy, including distribution channels, marketing tactics, and pricing models. 5. **Partnership Opportunities:** Identify and propose partnerships with local organizations, such as NGOs, microfinance institutions, and community groups. 6. **Implementation Plan:** Create a detailed plan for the first year of operations, including key milestones and performance indicators. 7. **Presentation:** Present your market entry strategy, highlighting the potential impact on energy access and quality of life in Armenia.
Case Study 3: Embrace Innovations - Affordable Infant Warmers	
Background:	Embrace Innovations was founded to address the high rate of neonatal deaths due to hypothermia in developing countries. Traditional incubators are expensive and require continuous electricity, making them inaccessible for many healthcare facilities in low-resource settings.
Problem Statement:	Every year, millions of premature and low-birth-weight babies die due to lack of proper thermal care. Traditional solutions are costly and not feasible for many rural clinics and hospitals.
Solution:	Embrace Innovations developed an affordable, portable infant warmer that does not require continuous electricity. The device uses a phase-change material that maintains a constant temperature for hours, providing critical warmth to newborns.
Impact:	• Over 300,000 infants in 22 countries have benefited from Embrace warmers. • Significant reduction in neonatal mortality rates in regions where the warmers are used. • Empowerment of local healthcare providers with a reliable and easy-to-use solution.
Analysis:	Embrace Innovations exemplifies how engineering can address critical healthcare issues in resource-constrained environments. By focusing on affordability and practicality, the company has created a life-saving product that has scaled globally, highlighting the potential for social entrepreneurship to drive impactful health innovations.

Main Task: Create a deployment plan for Embrace Innovations' infant warmers in rural healthcare facilities in Armenia. **Activities and To-Dos:**	1. **Needs Assessment:** Assess the state of neonatal care in Armenia, focusing on rural healthcare facilities. 2. **Stakeholder Mapping:** Identify key stakeholders, including healthcare providers, government bodies, and NGOs. 3. **Resource Allocation:** Determine the resources needed for deployment, including training for healthcare workers and maintenance of the devices. 4. **Impact Evaluation:** Develop metrics to evaluate the impact of the infant warmers on neonatal mortality and health outcomes. 5. **Training Program:** Design a training program for healthcare workers on the use and maintenance of the infant warmers. 6. **Funding Strategy:** Propose potential funding sources and strategies to support the deployment. 7. **Implementation Plan:** Create a step-by-step plan for rolling out the infant warmers, ensuring scalability and sustainability. 8. **Presentation:** Prepare a presentation outlining your deployment plan, expected impact, and funding strategy.
Case Study 4: GravityLight - Gravity-Powered Lamps **Background:**	GravityLight was invented by Martin Riddiford and Jim Reeves as a solution to provide affordable and sustainable lighting to off-grid communities. The product uses the force of gravity to generate light, offering an alternative to kerosene lamps.
Problem Statement:	Kerosene lamps are widely used in off-grid areas but pose health risks, fire hazards, and financial burdens due to the recurring cost of fuel.
Solution:	GravityLight uses a simple weight-driven mechanism to generate light. Users lift a weight, which slowly descends, turning a generator that powers an LED light. The device provides 20-30 minutes of light per lift and can be used repeatedly without any fuel or electricity.
Impact:	• Provided clean, safe, and free lighting to thousands of households in developing countries. • Reduced health risks and fire hazards associated with kerosene lamps. • Enabled more productive evening activities, such as studying and working.

Analysis:	GravityLight's innovation leverages basic engineering principles to solve a significant social issue. The simplicity and sustainability of the solution make it a powerful example of how social entrepreneurship can harness engineering to improve lives in off-grid communities.
Main Task: Develop a distribution and adoption strategy for GravityLight's lamps in off-grid communities in Armenia. **Activities and To-Dos:**	1. **Community Profiling:** Identify off-grid communities in Armenia that would benefit from GravityLight's lamps. 2. **Product Customization:** Propose any necessary adaptations of the product to suit the local context and user preferences. 3. **Distribution Channels:** Identify and propose effective distribution channels to reach target communities. 4. **Awareness Campaign:** Design a community awareness campaign to educate potential users about the benefits and usage of GravityLight lamps. 5. **Sustainability Plan:** Develop a plan to ensure the sustainability of the lamps, including maintenance and parts replacement. 6. **Partnership Opportunities:** Identify local partners who can support the distribution and adoption of the lamps. 7. **Impact Measurement:** Develop metrics to measure the impact of GravityLight lamps on the community's quality of life and economic activities. 8. **Presentation:** Present your strategy, including the distribution plan, awareness campaign, and expected impact.
Case Study 5: Proximity Designs - Affordable Agricultural Technologies **Background:**	Proximity Designs is a social enterprise that designs and delivers affordable agricultural technologies and services to smallholder farmers in Myanmar. Their goal is to improve productivity, income, and livelihoods through innovative solutions tailored to local needs.
Problem Statement:	Smallholder farmers in Myanmar face numerous challenges, including limited access to modern farming tools, high costs of irrigation, and unpredictable weather conditions.
Solution:	Proximity Designs offers a range of products, such as low-cost irrigation systems, improved seeds, and soil testing services. They also provide training and support to help farmers adopt these technologies and improve their farming practices.

Impact:	• Reached over 1.5 million people with their products and services. • Increased crop yields and incomes for thousands of smallholder farmers. • Enhanced resilience to climate change and economic shocks.
Analysis:	Proximity Designs' approach combines engineering, design thinking, and local knowledge to create impactful solutions for smallholder farmers. Their focus on affordability, usability, and sustainability demonstrates the potential of social entrepreneurship to drive agricultural innovation and rural development. These case studies illustrate how social entrepreneurship in the engineering sector can address critical social and environmental issues through innovative and scalable solutions. By focusing on real-world applications and impact, these ventures serve as powerful examples for aspiring social entrepreneurs and educators.
Main Task: Create a strategy to introduce Proximity Designs' agricultural technologies to smallholder farmers in Armenia. **Activities and To-Dos:**	1. **Agricultural Assessment:** Assess the current state of agriculture in Armenia and the challenges faced by smallholder farmers. 2. **Product Suitability:** Evaluate the suitability of Proximity Designs' products for the Armenian context. 3. **Farmer Engagement:** Develop a plan to engage and educate farmers about the benefits and usage of the technologies. 4. **Distribution Strategy:** Propose effective distribution channels to ensure the technologies reach the target farmers. 5. **Partnership Development:** Identify potential partners, such as agricultural cooperatives, local governments, and NGOs. 6. **Impact Projection:** Estimate the potential impact on crop yields, income, and resilience of smallholder farmers. 7. **Implementation Plan:** Create a detailed implementation plan, including pilot projects and scaling strategies. 8. **Presentation:** Prepare a presentation outlining your strategy, implementation plan, and expected impact.
General Instructions	1. **Team Collaboration:** Work in teams to encourage collaborative problem-solving and diverse perspectives. 2. **Research and Analysis:** Conduct thorough research and analysis to inform your strategies and plans.

	3. **Real-World Application:** Ensure your plans are practical and consider the specific context and challenges in Armenia. 4. **Stakeholder Engagement:** Engage with key stakeholders through interviews, surveys, or consultations to gather insights and feedback. 5. **Presentation Skills:** Develop your presentation skills by preparing and delivering your findings and recommendations to the class. These tasks and activities will help learners apply theoretical knowledge to practical scenarios, develop problem-solving and strategic planning skills, and understand the impact of social entrepreneurship in various sectors.

Case Studies: Social Entrepreneurship in the Engineering Sector in Armenia

Name of the Partner: BEP	
Case Study 1: Solara - Solar Energy Solutions **Background:**	Solara is an Armenian social enterprise focused on providing sustainable solar energy solutions. Founded in Yerevan, Solara aims to reduce the country's reliance on imported energy and promote renewable energy sources.
Problem Statement:	Armenia has a high dependency on imported energy, leading to economic vulnerability and environmental concerns. Many rural areas lack access to reliable electricity, affecting their quality of life and economic development.
Solution:	Solara designs and installs solar energy systems, including solar panels and water heaters, for households, businesses, and community centers. They also offer training and support to ensure the long-term sustainability of their installations.
Impact:	• Installed over 1,000 solar systems across Armenia, benefiting thousands of people. • Reduced energy costs for households and businesses. • Promoted the use of renewable energy, contributing to environmental sustainability.
Analysis:	Solara's success demonstrates how social entrepreneurship can leverage engineering solutions to address energy challenges. By focusing on sustainable and renewable energy, Solara not only

	improves energy security but also promotes environmental stewardship and economic resilience in Armenia.
Main Task: Analyze and develop strategies to expand the impact of Solara's solar energy solutions in Armenia. **Activities and To-Dos:**	1. **Research:** Study the current state of solar energy in Armenia and the specific challenges faced by rural areas. 2. **Impact Assessment:** Evaluate the social, economic, and environmental impacts of Solara's existing projects. 3. **Strategic Planning:** Develop a plan to enhance the scalability of Solara's solutions, including potential partnerships and funding opportunities. 4. **Proposal Writing:** Draft a proposal for a new initiative or project that Solara could undertake to further its mission. 5. **Presentation:** Prepare and deliver a presentation outlining your findings and recommendations.
Case Study 2: Armenian Engineers and Scientists of America (AESA) - STEM Education and Innovation **Background:**	AESA is a non-profit organization that promotes STEM (Science, Technology, Engineering, and Mathematics) education and innovation in Armenia. Through various programs and initiatives, AESA aims to build a strong foundation for Armenia's technological and scientific advancement.
Problem Statement:	Armenia faces a brain drain of talented engineers and scientists due to limited opportunities and resources in the country. Additionally, there is a need to enhance STEM education to foster innovation and economic growth.
Solution:	AESA organizes workshops, competitions, and mentorship programs to inspire and support young Armenians in STEM fields. They also collaborate with universities and research institutions to develop innovative projects and provide resources for scientific research.
Impact:	• Engaged thousands of students and professionals in STEM activities. • Supported the development of numerous innovative projects and startups. • Strengthened the STEM ecosystem in Armenia, fostering a culture of innovation and research.

Analysis:	AESA's initiatives highlight the importance of nurturing local talent and fostering a culture of innovation through STEM education. By providing resources and opportunities for young Armenians, AESA is helping to build a brighter future for Armenia's technological and scientific sectors.
Main Task: Design an innovative STEM education program that addresses the challenges of brain drain and limited opportunities for engineers and scientists in Armenia. **Activities and To-Dos:**	1. **Needs Analysis:** Conduct a needs analysis to understand the gaps in STEM education and career opportunities in Armenia. 2. **Program Development:** Develop a comprehensive STEM education program, including workshops, competitions, and mentorship initiatives. 3. **Resource Identification:** Identify potential resources and partners that can support the program's implementation. 4. **Impact Measurement:** Design metrics to measure the success and impact of the STEM education program. 5. **Report Preparation:** Compile a detailed report outlining the program design, expected outcomes, and implementation plan.
Case Study 3: Teach For Armenia - Educational Equity and Innovation **Background:**	Teach For Armenia is a social enterprise dedicated to providing quality education to all children in Armenia, regardless of their socioeconomic background. They recruit and train outstanding graduates to become teachers in underserved communities, promoting educational equity and innovation.
Problem Statement:	Educational inequality is a significant issue in Armenia, with children in rural and underserved areas lacking access to quality education. This disparity hinders their future opportunities and contributes to the cycle of poverty.
Solution:	Teach for Armenia places highly motivated and trained teachers in schools across the country, focusing on rural and disadvantaged areas. These teachers work to improve the quality of education, inspire students, and foster a culture of lifelong learning.
Impact:	• Placed over 200 teachers in underserved schools, impacting thousands of students. • Improved educational outcomes and opportunities for children in rural areas.

	• Created a network of passionate educators committed to educational equity and innovation.
Analysis:	Teach for Armenia's model illustrates the power of social entrepreneurship in addressing systemic issues in education. By empowering young leaders to become change-makers in their communities, Teach For Armenia is driving significant improvements in educational access and quality.
Main Task: Create a strategic plan to enhance the reach and effectiveness of Teach For Armenia's initiatives in rural and underserved areas. **Activities and To-Dos:**	1. **Data Collection:** Gather data on educational inequality in Armenia, focusing on rural and underserved communities. 2. **Gap Analysis:** Identify the key barriers to quality education in these areas. 3. **Strategy Development:** Develop strategies to recruit, train, and support more teachers for deployment in underserved schools. 4. **Community Engagement:** Plan community engagement activities to raise awareness and gain support for Teach For Armenia's mission. 5. **Evaluation Plan:** Create an evaluation plan to monitor and assess the impact of the strategies implemented.
Case Study 4: Eco Waste - Waste Management and Recycling **Background:**	Eco Waste is an Armenian social enterprise that focuses on improving waste management and promoting recycling. The company aims to address the growing waste problem in Armenia and raise awareness about environmental sustainability.
Problem Statement:	Armenia faces significant challenges with waste management, including inadequate infrastructure, low recycling rates, and environmental pollution. These issues pose health risks and threaten the country's natural resources.
Solution:	Eco Waste provides waste collection and recycling services, targeting households, businesses, and schools. They also run educational campaigns to raise awareness about the importance of recycling and proper waste management.
Impact:	• Collected and recycled thousands of tons of waste, reducing landfill use and pollution.

	• Increased recycling rates in communities where Eco Waste operates. • Educated thousands of people about environmental sustainability and waste reduction.
Analysis:	Eco Waste's efforts demonstrate how social entrepreneurship can address environmental challenges through practical solutions and community engagement. By improving waste management and promoting recycling, Eco Waste is helping to create a more sustainable future for Armenia.
Main Task: Formulate a comprehensive plan to improve waste management and recycling efforts in Armenia, building on Eco Waste's current initiatives. **Activities and To-Dos:**	1. **Situation Analysis:** Analyze the current waste management practices and challenges in Armenia. 2. **Best Practices:** Research and identify best practices in waste management and recycling from other countries. 3. **Program Enhancement:** Propose enhancements to Eco Waste's existing services and educational campaigns. 4. **Stakeholder Mapping:** Identify key stakeholders and develop a plan to engage them in the waste management initiatives. 5. **Implementation Plan:** Create a detailed implementation plan, including timelines, resources needed, and expected outcomes.
Case Study 5: My Armenia Program - Cultural Heritage and Tourism Development **Background:**	The My Armenia Program, funded by USAID and implemented by the Smithsonian Institution, is a social enterprise initiative that aims to preserve Armenia's cultural heritage and promote sustainable tourism. The program works with local communities to develop tourism experiences that showcase Armenia's rich cultural and historical assets.
Problem Statement:	Armenia has a wealth of cultural heritage, but many sites are underdeveloped and lack infrastructure to attract and accommodate tourists. This limits economic opportunities for local communities and hinders the preservation of cultural sites.
Solution:	The My Armenia Program collaborates with local artisans, cultural institutions, and community organizations to develop and promote tourism experiences. These include cultural festivals, craft workshops, historical tours, and more. The program also provides training and support to local businesses to enhance their capacity to serve tourists.

Impact:	• Developed numerous cultural tourism experiences across Armenia, attracting thousands of tourists. • Generated income for local communities and artisans. • Enhanced the preservation and appreciation of Armenia's cultural heritage.
Analysis:	The My Armenia Program showcases how social entrepreneurship can leverage cultural heritage to drive economic development and community empowerment. By promoting sustainable tourism, the program helps preserve Armenia's cultural assets while providing new opportunities for local communities.
Main Task: Develop a plan to further promote sustainable tourism and cultural heritage preservation in Armenia through the My Armenia Program. **Activities and To-Dos:**	1. **Cultural Assessment:** Assess the current state of cultural heritage sites and tourism infrastructure in Armenia. 2. **SWOT Analysis:** Conduct a SWOT analysis to identify strengths, weaknesses, opportunities, and threats related to cultural tourism. 3. **Program Design:** Design a new cultural tourism experience or enhance an existing one, ensuring sustainability and community involvement. 4. **Training Plan:** Develop a training plan for local businesses and artisans to improve their capacity to serve tourists. 5. **Marketing Strategy:** Create a marketing strategy to attract both local and international tourists to the cultural experiences developed.
General Instructions	1. **Team Collaboration:** Work in teams to foster collaborative problem-solving and innovation. 2. **Stakeholder Engagement:** Engage with key stakeholders through interviews or surveys to gather insights and feedback. 3. **Practical Application:** Ensure that your plans and strategies are practical and consider the real-world constraints and opportunities in Armenia. 4. **Presentation Skills:** Develop your presentation skills by presenting your findings and recommendations to the class, simulating a pitch to potential partners or funders.

	These activities will help learners apply theoretical knowledge to real-world scenarios, develop problem-solving skills, and understand the impact of social entrepreneurship in the engineering sector.

These case studies illustrate the potential for social entrepreneurship in the engineering sector to address key social, environmental, and economic challenges in Armenia. By focusing on innovative and sustainable solutions, these ventures demonstrate how engineering and social entrepreneurship can work together to create lasting positive impacts.