

Training Module 4. Waste Management in Rural Communities

4.5.1 Case Study 1. Salacea “Zero Waste”, Romania

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Case study no. 1 refers to the possibilities of implementing the "Zero Waste" concept in rural communities, taking as an example the village of Sălacea in Bihor county

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The Zero Waste concept means the systematic design and management of products and processes for avoiding and eliminating waste and for conservation and recovery of all resources from waste streams

The hierarchy of waste management options considering the concept of Zero Waste emphasizes sustainable design/projection of products and services, reduction, reuse, material recovery for recovery of materials and substances, and excludes incineration without energy recovery and disposal through landfilling.

In this context, a Zero Waste community either recycles at a 100% rate, or recovers all possible resources from waste and does not produce waste harmful to the environment.

The "Zero Waste Community" certification system is an independent evaluation and certification standard, carried out by a third party and based on the zero waste methodology.

The certification scheme addresses key environmental, social, circular and economic objectives that have a large-scale impact on communities. In Romania, this process is monitored and managed by Zero Waste Romania. The zero waste methodology is based on zero waste good practices implemented in nearly 400 communities across Europe

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Sălacea is located in the northwestern region of Romania, with a population of just over 3000 inhabitants belonging to the Hungarian, Romanian and Roma ethnic groups

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Before the implementation of the new door-to-door collection system, Sălacea had a selective collection and recycling rate of less than 1%. These low values were the consequence of both the standard approach to waste collection, which used a dual collection system, and the low involvement of citizens in decision-making processes. Out of 1000 households, only 84 (8.4%) sorted their waste, while nationally there were no incentives to encourage selective collection and recycling, with residual waste being collected twice as often as recyclables.

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In February 2018, the Sălăcea authorities established a number of key objectives to be achieved by 2020:

- 50% reduction in the amount of waste generated
- 100% waste sorting
- Achieving a 90% rate in repairing, reusing and recycling products
- The lowest possible level of waste disposed of by storage or co-incineration

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Waste collection in Salacea was done in 2 fractions: the wet waste fraction and the dry waste fraction.

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One of the biggest factors that contributed to reducing the amount of waste generated, as well as increasing the recycling rate in Sălăcea, was the complete transformation of the waste collection system. The bins and street containers have been replaced with a new separate collection system, "door to door", for five fractions, including bio-waste - the first of its kind in Romania.

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The amount of waste generated decreased by 55%.

- The amount of waste sent to landfills decreased from 98% to 55%. This included 16% of non-recyclable waste obtained after mechanical-biological treatment and 39% residual waste collected from households.
- Separate collection rate waste increased from 1% to 61%. These were transported to the local sorting station (Ave Bihor) to remove any potential contamination and to further sort them into a higher quality recycled material. Bio-waste was treated by composting at the Eco Bihor station.
- The amount of waste sent for recycling increased from 1% to 40%.
- 5% of residual waste was disposed of through co-incineration, with a goal of reducing the amount of co-incinerated waste to 0% by 2020.

The involvement rate of local citizens increased from 8.4% to 97%.

The graph shows the different fractions of waste in Sălacea before, during and after the introduction of the new collection system between December 2017 and Aug 2018. The data shows a decrease in residual waste and an increase in recycling fractions as the pilot program was implemented.

The information can be used to advise and guide the zero waste working group in the development of plans and future stages.

Bio-waste, for example, accounts for a total of 42% of waste generated by households, while construction waste, including soil, ash and stones, is at 28%. In the case of the dry, recyclable fraction, the data indicate plastics and in particular PET as the main type of recyclable waste (68%), while textiles were present in the smallest proportion (3%).

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In Sălacea, the waste prevention was encouraged by creating a urban mining centers. It facilitated the collection, repair, reuse and/or recycling of several wastes, including construction and demolition waste, hazardous waste, furniture, tires, batteries and textiles.

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A comprehensive education program was carried out before the introduction of the new collection system. It lasted for four weeks, was led by community leaders and introduced by the Zero Waste working group as a prerequisite for starting the program. Among the key members of the community who led the education program were the mayor, the school principal, the priest, as well as representatives of Ave Bihor and Eco Bihor. They joined forces to make possible the implementation of this intensive educational program, which included direct communication with members of the local community in spaces such as the church, schools, pubs and the local cultural center.

Communication was essential to the success of the new collection system. The company responsible for waste collection used stickers on all bins, in all three languages spoken in the area: Romanian, Hungarian and Romani. At the same time, local volunteers who were trained to answer citizens' questions about the new system, also distributed separate collection kits containing bins and bags and provided information materials to guide and assist residents

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The key to success was the involvement of community stakeholders, including "Eco Bihor", a regional waste operator that managed to establish a partnership with the local Sălacea waste operator, Ave Bihor. Joining forces, they managed to transform the existing sorting system. Support and technical advice from several stakeholders and experts, contributed to the successful creation and dissemination of the new collection system.

For example, initially the mayor was convinced that the fractions of cardboard and paper waste would have been almost non-existent, due to the assumption that local residents would either burn or reuse these types of waste. However, in the initial monitoring phase, waste operators identified approximately 8% cardboard and paper among the waste generated. Once this was established, Eco Bihor worked with the mayor to help prioritize paper and cardboard waste.

Initially, Citizens continued to use the large black 120 liter bins for their residual waste, despite the fact that they had been clearly re-labelled with a green sticker for the separate collection of glass. The habit of throwing residual waste into a container with a larger volume was difficult to change and people did not feel motivated to use the smaller black 40 liter container, even though the size of this container was thought to be way to encourage sorting and reducing the residual waste.

Recognizing the need to financially incentivize the new collection system, citizens were given the options of joining the new program or staying out but at an increased fee. In the previous system, each person paid approximately €1 per month for waste management services. Through the new system, citizens who did not agree to join paid double. For those who joined, the fee remained the same.

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Salacea is the Romanian success story of a rural community that implemented the Zero Waste concept and managed to obtain certification. There are other rural communities both in Romania and in other countries that can be examples of good practices on this subject. For more information, I invite you to access the link included in the slide.

Thank you for your attention!