

# INTRODUCING ECOLOGICAL ELEMENTS IN PLANNING OF TOURISM INFRASTRUCTURE

MODULE 3: RURAL TOURISM AWARENESS LANDSCAPE PLANNING AND

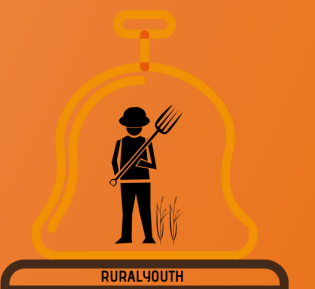
MANAGEMENT OF RURAL TOURISM INFRASTRUCTURE

# OBJECTIVES

In Unit 3.3 you will learn about ecological elements in planning of tourism infrastructure.

## **Keywords:**

- Ecological trends in designing
- Pro-ecological solutions/Nature Based Solutions
- Rural tourism infrastructure



# AT THE END OF THIS UNIT, YOU WILL BE ABLE TO...



Understand the relation between pro-ecological solutions and protection of environment



Explain the role of NBS in sustainable development of rural areas



Understand how you can use NBS in creating small scale infrastructure with touristic function



Understand the value of proecological solutions in planning of public space in village





# TOPICS

1. Ecological trends and new ideas for sustainable development of countryside
2. Why Nature Based Solutions?
3. Creation of pro-ecological infrastructure for tourists

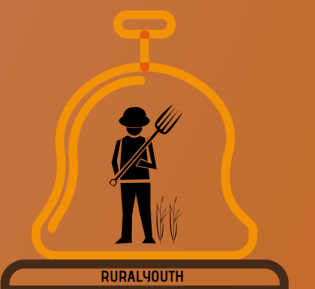
# Ecological Trends



Created by Luiz Carvalho  
from Noun Project

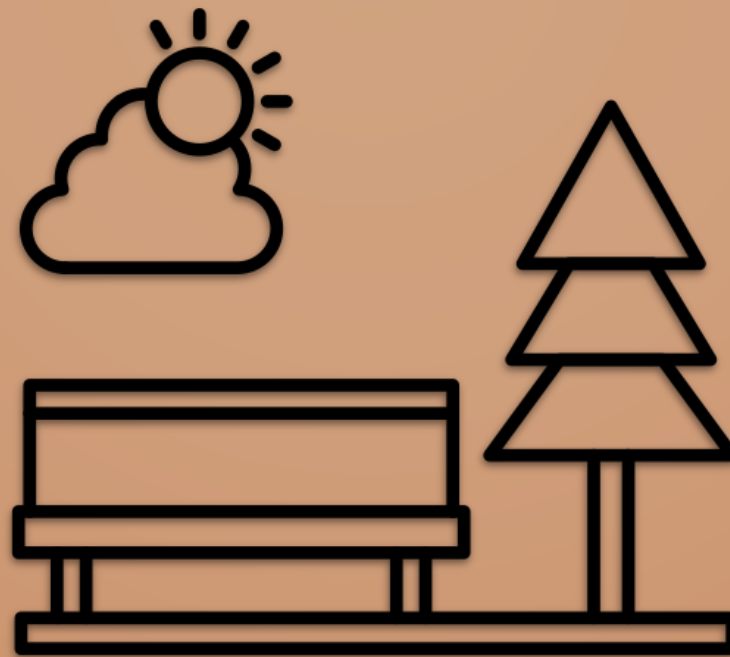
*If we don't have a place for nature in our heart, how can we expect nature to have a place for us.*

- Abhijit Naskar, When Veins Ignite: Either Integration or Degradation

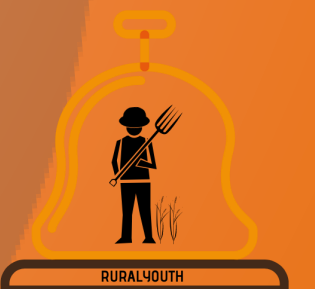


# Look around and see the benefits from ecological planning!

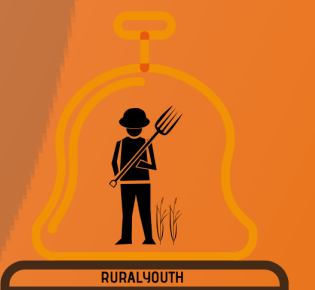
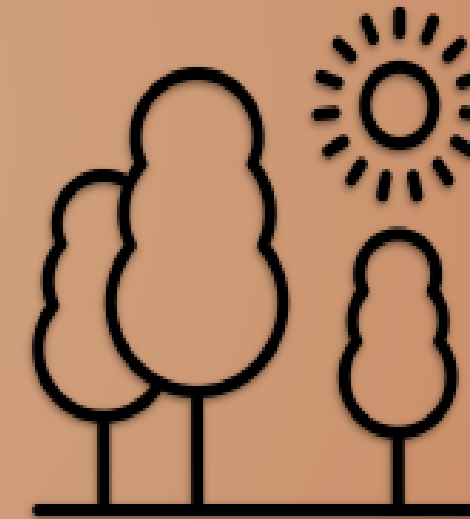
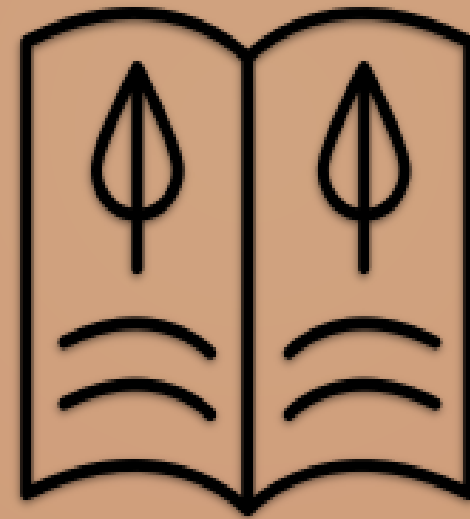
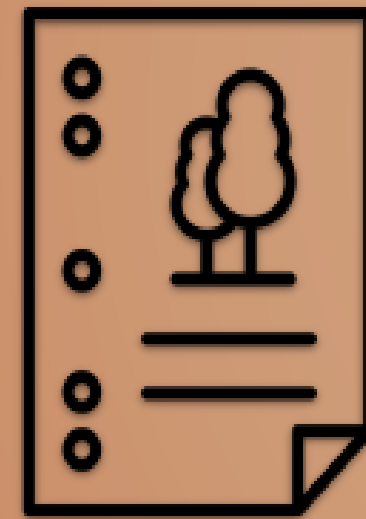
Ecological trends refer to green planning/green urbanism terminology. Green planning is defined as the practice of creating space for the community for the benefit of people and the environment. It is an idea of shaping more sustainable places, communities and lifestyles, as well as limiting the use and consumption of natural resources.



Education for the Environment  
to the World Movement



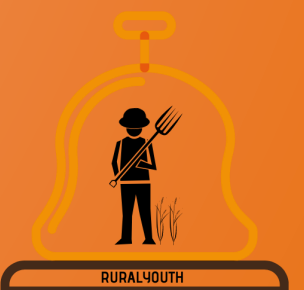
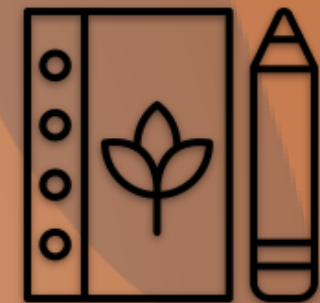
Green planning is interdisciplinary, it combines the cooperation of landscape architects, engineers, town planners, ecologists, transport engineers, psychologists, sociologists, economists and other specialists in the field of architecture and city design.



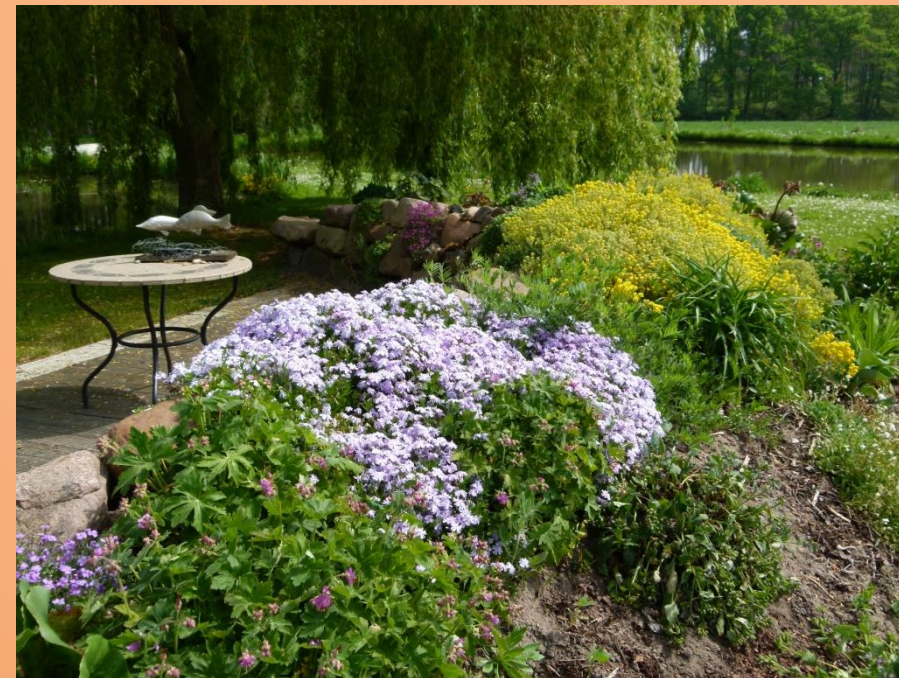
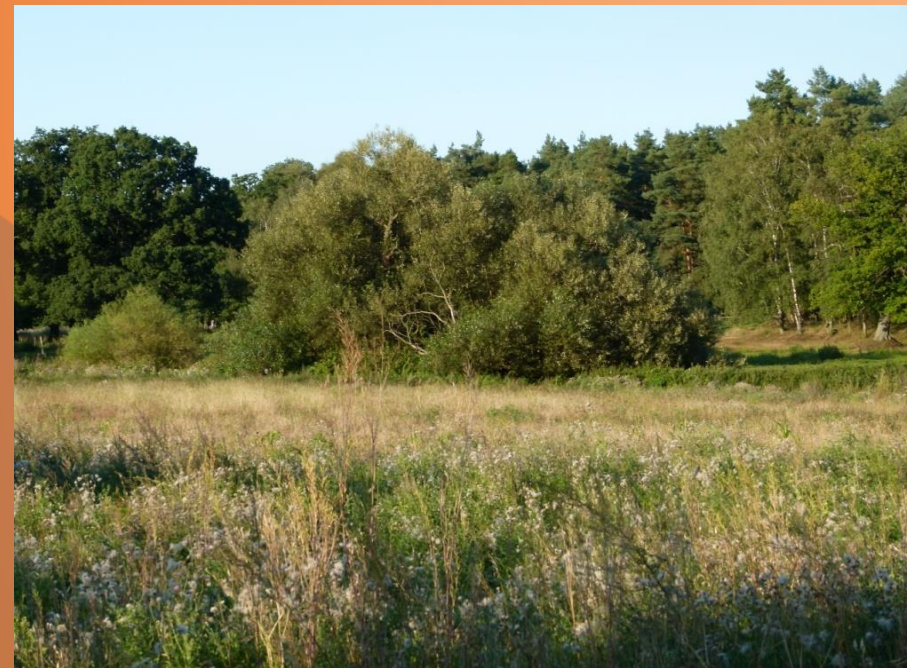


A conscious approach to ecological planning and eco-trends are related to:

1. Integrated shaping of rural space, including that of tourist importance.
1. Protection and rational use of resources in combination with meeting social needs.
1. Correlating individual levels of landscape design with spatial planning depending on the scale of the region, to the scale of the place.



**Green planning** for areas with a tourist function should be based on creating places that are friendly to tourists and, at the same time, to the inhabitants of the countryside or a given tourist enterprise in the countryside. At the same time, these places should be planned in accordance with the respect for nature, on the basis of integration into natural systems, open landscapes, and not their transformation. This will help emphasize the authenticity of the place and, on the other hand, be attractive to tourists who are looking for a break from the hustle and bustle of city life.



Pic. Open space and planned green areas in rural tourism farm, photo by A.Jaszczak

## Ecological design standards in places with tourism function

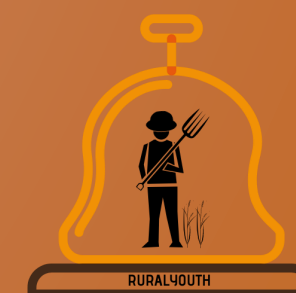
Appropriate conditions for spending time in a tourist destination (health, social) should be ensured by the obligatory application of standards with functional, cultural and ecological aspects.

Standards should contain rules as well as parameters for the development and shaping of buildings, taking into account the principles of ecology.

On a larger scale, they should be observed when formulating spatial rules and development strategies, drawing up development plans and investment plans, as well as financial planning.



Pic. Rural tourism areas and farm buildings, photo by A.Jaszczak



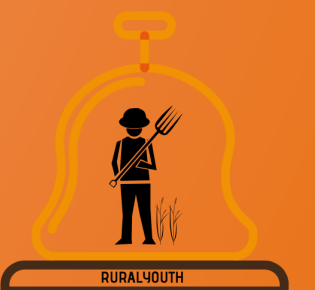


**Contemporary thinking about planning** of tourism space in the countryside must be based on the affirmation of broadly understood ecology. This means that everything we plan with regard to the creation of a new tourism space should take into account not only the needs of a tourist or a rural inhabitant, but also or above all, environmental protection and reducing the harmful impact of humans on the space used by them.

In the case of using the already existing tourism space or tourist facilities, it is necessary to think about its possible renewal, of course, when the need arises. This renewal should be planned taking into account the use of existing resources, their renovation or their recycling. Recycling is especially important; therefore, it is worth thinking how we can reuse a given element / material / structure, giving it a new function or "new life".

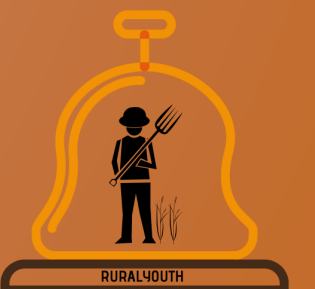


Pic. The examples of re-use of materials and objects into new forms, photo by A.Jaszczak (1,3), S.Martino website (2)



*To restore stability to our planet, therefore, we must restore its biodiversity, the very thing we have removed. It is the only way out of this crisis that we ourselves have created. We must rewild the world!*

*- David Attenborough*



## Selected trends in ecological planning

- Concepts of eco-structures and rural settlements - a new approach to rural planning
- Idea of small towns and healthy villages
- Using ideas taken from nature itself
- Introducing innovative ideas in construction, public space, green areas (reduction of energy demand, use of resources, recycling)
- Concepts for the development of small towns and villages in accordance with the idea of „slow,,
- Application of NBS (Nature Based Solutions) in public space projects in rural areas



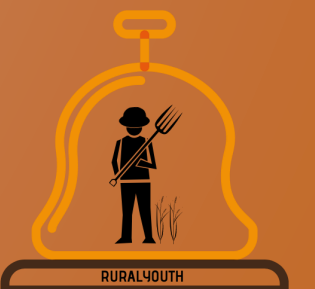
# Nature Based Solutions



Created by Luiz Carvalho  
from Noun Project

*Trees could solve the problems if people trying to improve things would only allow them to takeover*

- Peter Wohlleben, The Hidden Life of Trees: What They Feel, How They Communicate – Discoveries from a Secret WorldAbhijit





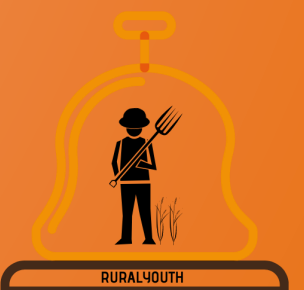


NBS (Nature Based Solutions) - solutions based on "imitating" nature, as well as relating to the use of resources in a sustainable manner in a closed circuit. Such solutions apply to a modern approach to designing of urban and rural areas.



They are to respond to ecological problems, climate and spatial changes in the countryside and should be based on the use of existing village resources and recycling, or re-use for a new function. NBS solutions should be environmentally friendly and improve the health of urban and rural residents.

**Did you know that NBS can help to protect our environment?**

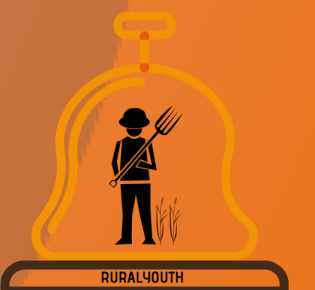


RURAL4YOUTH

The perception of the benefits offered by the presence of nature and the deteriorating state of the environment meant that in the recent years it has increased the importance of ideas such as sustainable development, biophilic design, livability. Eco patterns have become the guidelines for places that want to expand in harmony with nature and the surrounding landscape, while ensuring a high level of prosperity.



Pic. Biophilic design of recreational area using NBS, author: Karolina Celebucka Ms.C. work, source: Department of Landscape Architecture, UWM in Olsztyn



**Check if you are  
familiar with the topic  
of biophilia in your  
daily life!**



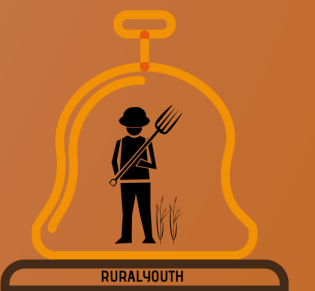
Problems that can be solved with NBS are related to climate change, they affect the proper air circulation, reduce the impact of climate warming, prevent floods, and reduce water pollution. NBS offers a range of environmentally beneficial ecosystem services.

NBS can provide a range of valuable services such as clean water production, nutrient recovery, heavy metal retention and recovery, and a wide range of plant materials.

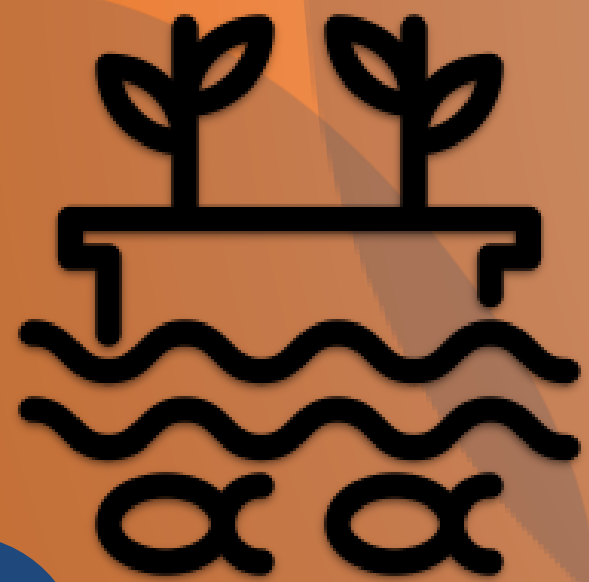


*When we reconnect with nature, we will be restore ourselves*

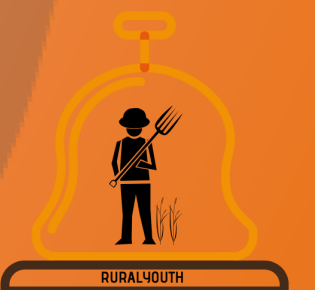
*- Lailah Gifty Akita, Think Great: Be Great!*



NBS in another sense refers to Blue and Green Infrastructure. Blue and Green Infrastructure - these are solutions on the scale of an estate that take into account the use of green systems and water areas. Examples on a smaller scale - vertical gardens, roof gardens, floating green islands, rain gardens etc.

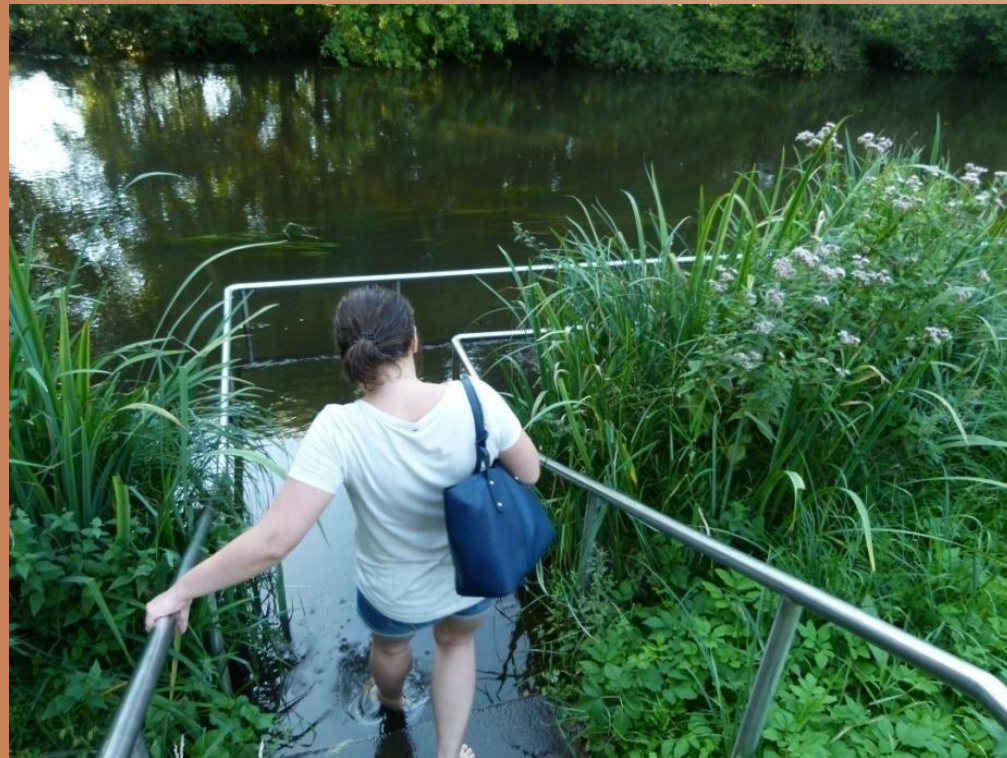


Such solutions are typical for cities and large agglomerations. Their role is invaluable, especially in built-up city centers. They are less common in rural areas due to less problem with access to biologically active areas or green areas. Nevertheless, pro-ecological solutions can be used in villages, as an alternative to traditional forms, and also as an educational element. Their biological function is also important, they also increase biodiversity and are important, especially in places exposed to climate change.



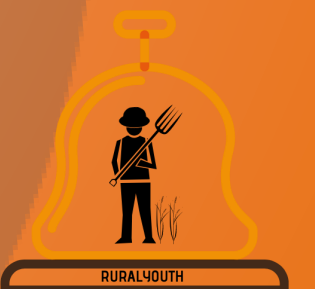
NBS apply to a modern approach to designing of urban and rural areas They are to respond to ecological problems, climate and spatial changes in the countryside.

NBS should be based on the use of existing village resources and recycling, or re-use for a new function. They should be environmentally friendly and improve the health of rural residents and tourists.



Examples of using natural forms to create places to improve the health of tourists based on NBS, photo by Jaszczak A.

Pic.



# Creation of Pro-ecological Infrastructure for Tourists



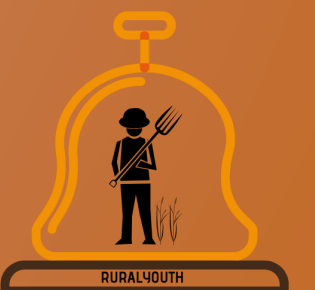
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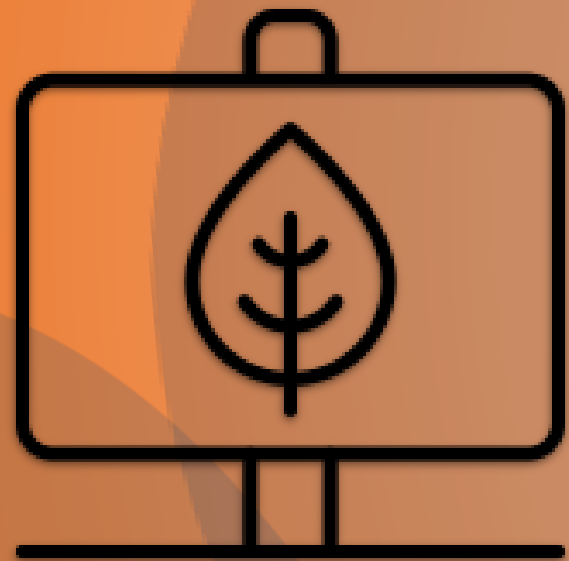


*Human use, population, and technology have reached that certain stage where Mother Earth no longer accepts our presence with silence.*

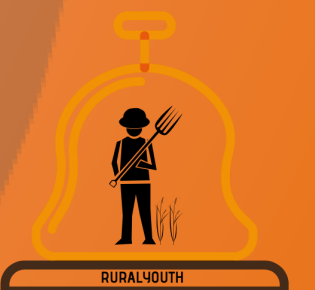
*- The Dalai Lama*



## Why is it worth planning recreational infrastructure based on pro-ecological solutions?



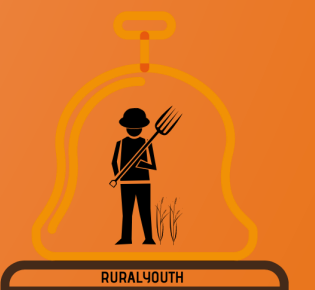
1. Environmental benefits, including reducing the harmful impact of humans on the environment
2. Possibilities of improving the quality of the environment
3. Possibilities of educating local society and tourists on pro-ecological solutions
4. Benefits from recycling and reuse of used materials
5. Economic benefits, e.g., the use of energy-saving components
6. Social benefits, e.g., joint initiatives to create places for shared use by residents and tourists



Planning of recreational infrastructure based on pro-ecological solutions should be based on the inclusion of natural values and matching elements with the least interference in the environment. Below are solutions for the creation of recreational areas near the water depending on the need of tourists for infrastructure and forms of recreation, but also with care for preserving the natural values.



Pic. Biophilic design of recreational area using NBS, author: Karolina Celebucka Ms.C. work, source: Department of Landscape Architecture, UWM in Olsztyn



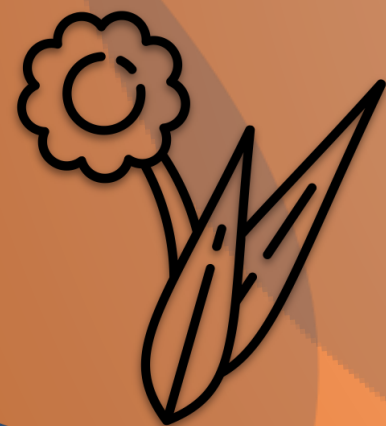
## Ideas for designing of infrastructure for tourists with using the environmentally friendly solutions



**Area:** Bus stops, areas with recreational and tourist functions

**Project:** Development of bus stops, shelters and gazebos on bicycle and pedestrian routes, gazebos in public spaces, e.g. beaches or parks

**A way to use a pro-ecological solution:** planning a green roof and / or a green vertical wall



**Area:** Public area, e.g., central square

**Project:** Planning a space with places for passive rest (benches, deckchairs, hammocks)

**A way to use a pro-ecological solution:** Creation of a flower meadow with various species, including vegetation attracting insects, e.g. butterflies

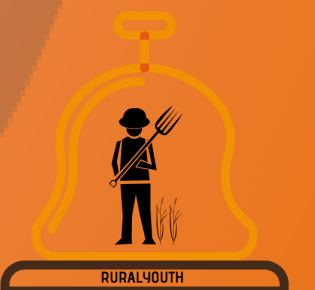
**Example:** Bus stop for tourist and residents of village

A stop with a green roof. It is a green offer of bus shelters that could appear in the villages.

There is a sedum mat on the roof of the shed increasing the biologically active surface. It also lowers the perceived temperature on hot days. The shelter also has a climbing wall, which makes the stop even more attractive. The structure with dimensions of 3.4 mx 2.3 m, made mainly of metal but also wood, allows you to accommodate more people inside.



Pic. Bus stop designing with using NBS, author: Justyna Kamińska, Ms.C. work, source: Department of Landscape Architecture, UWM in Olsztyn

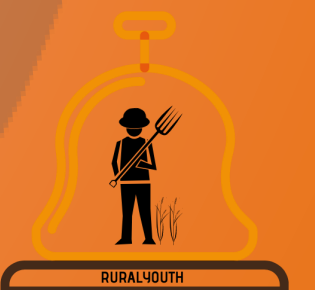


## Example: Flower meadows

Flower meadows with insect hotels (insect houses). Green roofs with sedum mats, located among flower meadows. The frame is made of metal, 1.6mx1.5mx1m. The center of the structure is made of natural elements, e.g., some reeds, wood or branches.



Pic. Proposal of flower meadow with insect „hotels” , author: Justyna Kamińska, Ms.C. work, source: Department of Landscape Architecture, UWM in Olsztyn



## Ideas for designing of infrastructure for tourists with using environmentally friendly solutions



**Area:** A square, a roadside area, e.g., a canal by a road, a pond or a water reservoir, micro-areas under a rain gutter

**Project:** Planning a recreational area with access to water for general use

**A way to use a pro-ecological solution:** Creation of rain garden



**Area:** The area of the park, the village greenery, roads and paths in the village, parking place

**Project:** Planning the pavement in the village

**A way to use a pro-ecological solution:** Use of permeable surfaces instead of asphalt or prefabricated solutions

**Example:** Recreation arbors with green roofs

Seats with a green roof. These are modern seats with a green roof. They have green roofs in the form of sedum mats. A floor suitable for supporting sedum mats with all components. They are made of metal and there is a table inside. Their dimensions are 2.3m x 1m.



Pic. Green arbors with seats, author: Justyna Kamińska, Ms.C. work, source: Department of Landscape Architecture, UWM in Olsztyn



## Ideas for designing of infrastructure for tourists with using the environmentally friendly solutions



**Place:** All public places, including those intended for tourists

**Project:** Planning the lighting

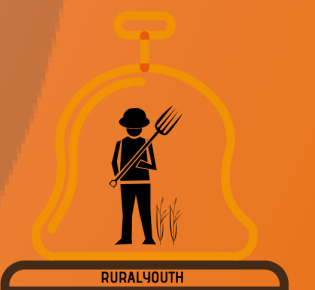
**A way to use a pro-ecological solution:** The use of solar / energy saving lighting



**Place:** Lake areas or ponds

**Project:** Planning places / platforms on the water

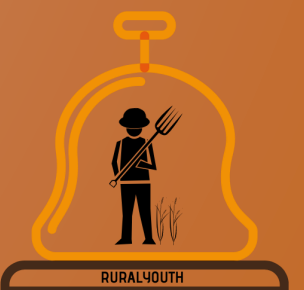
**A way to use a pro-ecological solution:** Planning of green floating islands with vegetation





*The aquatic environment must be safeguarded by men. God created mankind to care for the environment and all the living resources.*

- Lailah Gifty Akita, The Alphabets of Success: Passion Driven Life

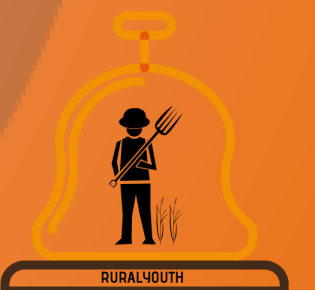


## **Example:** Green island

It is an artificial floating island with the use of aquatic plants. The structure is a scaffolding made entirely of non-toxic and ecological materials. The space between the elements of the structure is most often made of coconut fibers. Its dimensions are 1m x 1m. Placing the islands for the purposes of e.g. water purification, introducing biodiversity, increasing the visual attractiveness for land users. It also increases the biologically active surface



Pic. Green island, author: Justyna Kamińska, Ms.C. work, source: Department of Landscape Architecture, UWM in Olsztyn





SURF  
TO FIND OUT  
MORE

- ➡ Watch [this video](#) about Nature Based Solutions NBS from COST action Circularity:
- ➡ In [this video](#) you can see the importance of planning within ecotourism infrastructure
- ➡ [Here](#) is some information about alternative and eco-friendly building materials which can replace concrete and steel. They allow designers and engineers to construct green buildings with a low carbon footprint.
- ➡ With [this video](#), IUCN ECARO/ADAPT explains new approach of NBS.

# MATCH THE PARAGRAPHS!



NBS offers ...

...the practice of creating space for the community for the benefit of people and the environment.

Good examples of NBS are...

...and improve the health of urban and rural residents

Green planning is defined as ...

...on the affirmation of broadly understood ecology

NBS solutions should be environmentally friendly...

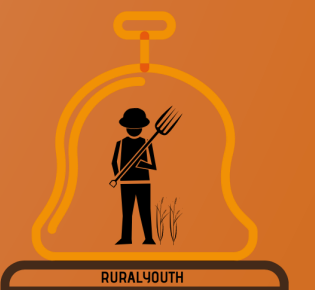
...vertical gardens, roof gardens, floating green islands, rain gardens.

Contemporary thinking about planning tourism space in the countryside must be based...

...a range of environmentally beneficial ecosystem services

# DISCUSSION

1. Consider the role of the NBS in the modern world. Are such solutions important in reducing harmful human activity? Can such solutions be introduced into rural tourism space?
1. How should tourism infrastructure be planned to make it environmentally friendly?



# SUMMARY

- In this unit, you have learned about ecological trends, pro-ecological solutions/nature based solutions and rural tourism infrastructure.
- Planning of public spaces in the countryside and tourism infrastructure should be based on current pro-ecological trends taking into account NBS solutions. Such an environmentally friendly approach will reduce environmental changes and improve the quality of life of rural residents and tourists.
- In Unit 3.4 you will learn about economic consequences of tourism development from the spatial context.

