

AIEST: CONTEST OF FRESHIDEAS



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1. Question dealt with in the contribution (What is it about?)

We have been looking at the initial situation of how to transform tourism into a more ecologically sustainable phenomenon. Our specific focus is on how outdoor tourists can behave in an environmentally friendly way while hiking. We want to create an opportunity to actively contribute to keeping nature clean during outdoor activities. Especially on hiking trails, carelessly discarded rubbish is often a long-term problem.

The preservation of nature, as the basis of life for humans and animals, is a general challenge and must not be neglected or even aggravated during tourist activities.

2. Justification of this question (why is it important?)

"Estimates of the longevity of plastic range from 450 years to forever" reads a National Geographic statement. Plastic packaging lying around in nature is a problem we have all encountered. Especially in areas where there is no waste collection, for example on hiking trails in the mountains, litter is a big challenge. Apart from the fact that plastic decomposes very slowly or not at all, it gradually breaks down into smaller pieces and eventually becomes microplastic. These very small particles end up in groundwater and are swallowed by animals, polluting our waters. And it is not only plastic waste that can be found on a hiking trail in nature. After long lunch breaks, eggshells and leftover fruit and vegetables are often left behind. Egg and fruit shells take between 6 months and a year to decompose. Banana and orange peels take between 2 and 5 years. On the one hand, food scraps disturb the appearance of the environment, and on the other hand, they can release pesticides and toxins into the soil that have got into the peels through fertilisation. In addition, tropical fruits take a long time to rot in the wild, so a lot of it accumulates over the years. Animals also suffer from litter lying around. To give just one example, birds use plastic packaging to build their nests. When it rains, the nest fills with water and the chicks drown. Especially lying around cigarette butts have a negative impact on the environment. A cigarette contains several thousand chemicals, many of which settle in the filter. If the filter is simply thrown away, the chemicals can enter the ecosystem through the soil. In addition, cigarette filters are made of a very resistant material and only degrade after about 10 - 15 years.

3. Assumptions underlying the question and its discussion (Which are the premises?)

To answer this question, we have created a survey. Here we want to find out whether littering is perceived as a problem and to what extent and under what conditions the respondents would pick up litter while hiking. Our first question aims to clarify the general perception of littering while hiking. Out of a total of 28 respondents, 23 people feel disturbed by litter lying around in nature. Our prototype assumes the intention that people pick up litter while hiking. Question two shows that 22 people would be willing to do this in principle. In order to examine this more closely and adapt our idea to it, it is interesting for us to see under what conditions hikers would pick up litter. 85.7 % of the test persons are willing to pick up litter if a litter bag is provided on site. This suggests that the biggest obstacle for people is not being able to transport the collected rubbish without it restricting their walking. This hypothesis was 100% confirmed in our survey, as all respondents are willing to pick up litter if there is a practical way to transport it. Furthermore, the problem of the possibility to drop off the rubbish has to be taken into account. Here 89.3 percent state that an easy way of disposal would encourage respondents to collect litter on footpaths. Another prerequisite for the implementation of our prototype is a functioning infrastructure.

For the success of the project, it is essential to win over like-minded partners, for example mountain pasture operators and the responsible DMOs. Thus, the interest of the destination is a prerequisite for the assumption of the project costs.

4. Showing possible answers and innovative solutions (How can those challenges be addressed?)

We would like to create an opportunity to actively contribute to keeping nature clean during outdoor activities. Carelessly discarded litter is often a long-term problem, especially on hiking trails. Our prototype is primarily designed for highly frequented hiking

trails and aims to create a simple combination of pleasure and environmental protection. From our own experience we know that often the intention is to collect rubbish lying around, but there is no possibility to transport the rubbish and dispose of it properly. This is exactly where "Pick n` Hike" comes in. We have developed a method that makes it possible for everyone to pick up rubbish on the trail while hiking with the help of a rubbish bag provided by us and to dispose of it afterwards. The bag is taken from a station that is installed at a strategic section of the trail. The station is made of natural materials and has the shape of a bird house to blend in perfectly with the surroundings. In addition to the collection function, the bird house is used to provide information. A map shows the nearest disposal options so that the hiker knows how long he has to transport the collected waste and where he can drop it off. In addition, instructions show how to attach the bag to the backpack in the most sensible way so as not to disturb the hike. For more information on the project and on nature conservation in general, there is a QR code that links to the website of "Pick n` Hike".

The bags are made of recycled polyethylene. The problem of the material will be discussed further in section 5. To get a new bag, a lid is opened, and a bin liner can be torn off the roll. Alternatively, the box offers the possibility to return unused bags. A separate compartment is provided for this purpose. People are encouraged to use the unused bags that have already been torn off first.

5. Open questions regarding these answers and solutions (What remains to be seen?)

The first question is who is responsible for the maintenance or refilling of the bags. In addition, it must be clarified who will take care of the disposal of the full rubbish bags. Our wish is to work together with the DMOs, because a cooperation with us brings an outstanding added value, especially for the destination. It is planned to install the stations in the first third of the hiking trail, as a car park is often the starting point for hikes, but this itself is often unclear. Ideally, the Destination Management Organization will take care of filling the rubbish bags and disposing of the rubbish. The collected waste is disposed of at the existing disposal facilities of the car park or the path. Unused bags can be returned to a separate bin at the same location so that they can be reused. We

are aware that by handing out the rubbish bags we are producing new waste, but for the time being we see it as a necessary evil to counteract the pollution of nature on hiking trails.

In the long term, it is our wish to establish a closed cycle, for example with bags made of washable and reusable material. However, this variant requires a more extensive network. Therefore, we are starting the project with bags made of recycled polyethylene. Our research has shown that this solution does not fully meet our sustainability requirements. We also considered the possibility of using biodegradable bags. Since the bags end up in the residual waste anyway, we focus on the most ecological way of production. It is clear that supposedly biodegradable bags are produced in a much more environmentally damaging way, as they often consist of a high proportion of petroleum. In addition, renewable raw materials are used that have to be strongly chemically converted and are therefore also detrimental to emissions and the environment during production. In the production of recycled polyethylene, CO₂ emissions are lower and thus have a significantly better ecological balance. For this reason, these bin liners are also awarded the Blue Angel, an environmental label of the Federal Government for the Environment, Nature Conservation and Nuclear Safety.