



EWR good practices and case studies

Educating with Energy

1. Details of Action:

Coordinators: Lipor

Action Developers: Educafrica

Name of nominated action: Educating with Energy

Town: Maia

Region: Porto

Country: Portugal

Website: www.educafrica.pt

Nominee category: Association/NGO

Dates of action: 28/11/2014

2. Action's theme:

- Reduce – Strict avoidance and reduction at source
- Reuse – Preparing for reuse and reuse
- Recycle – Waste sorting and Recycling
- Let's Clean Up Europe!

3. Action related to the Prevention Thematic Days 2014: Stop Food Waste?

- Yes
- No

4. Description of the nominated action:

For those past few years, Educafrica has the aim of collaborating in the development of Portuguese-speaking African countries. This year, they promoted a contest, challenging students to critically think and build solutions to a problem that affects the whole world.

The action **Educating with Energy** seeks to foster awareness toward environmental issues, namely food waste, among students aged between 14 and 24. Educafrica has challenged schools to develop a food dehydrator, capable of dehydrating the fruit and vegetables that grow in the school's garden by using solar energy. Dehydration minimally affects the nutritional value of fruits and vegetables, especially when the process takes place in a controlled environment, and it only needs two days of sunshine.

In some developing countries, where there are plenty of fruits or vegetables during part of the year, locals do not have the appliances to store it or preserve it for the rest of the year. Much is wasted on the trees or kitchen gardens. In Europe, tonnes of fruit and vegetables are thrown away every year simply because they do not look good enough to be sold. In Portugal that number reaches 3 tonnes per week in only one region. Much is also wasted because they are not sold at supermarkets. In schools, a lot of fruits are wasted because they are not eaten.

By engaging in this contest, students are able to understand better what happens to the food they waste and build a solution to preserve what their school's kitchen garden produces, using materials that do not harm the environment, can be found everywhere and, therefore, can be built in any part of the world just by using solar power.



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The contest aims to stimulate students to solve problems; promoting team work at the same time they support communities to preserve food. The **contest** had **two phases**:

-Present the handbook of the dehydrator, which included the description of the materials, calculations and the construction process step-by-step.

-Build a prototype of the dehydrator by using recycled materials and test it with products from their school's kitchen garden.

They did this task with the help of their teachers and Educafrica volunteers went to schools whenever asked to help students and suggest improvements to their projects.

At the end of the school year, we will organise an exhibition with the students' prototypes and projects to raise awareness on the surrounding community of what can be done to prevent food waste.

5. Type of evaluation conducted and outcome of the evaluation:

- Number of visitors/participants
- Feedback from visitors/participants (willingness to change their behaviour)
- Quantity of waste avoided/collected
- Amount of CO2 avoided
- Other indicators (please specify):

Number of prototypes developed; Quantity of food dehydrated/tray/cycle

The students who were engaged in this project felt really motivated to accomplish it. The more they read about the subject, the more they wanted to build and test.

The feedback was very positive: students applied the contents of several subjects like Maths, Physics, ICT, Citizenship and Portuguese to accomplish the task, acquiring knowledge in a different way. Students and School community were overwhelmed with the statistics of food waste in Portugal and felt motivated to continue the project and work with our organisation, even after the end of the contest.

Students and School community realised the **significant benefits of a simple dehydrator**:

- a) Increase the food durability without losing the nutritional quality;
- b) Reduction of the environmental impact associated with other food conservation options (purchase and energetic consumption of a refrigerator as an example);
- c) Important prevention of food waste.

They intend to increase the impact of this action, disseminating the usage of a dehydrator at a community level, namely creating and implementing a community dehydrator at the 42 kitchen gardens of the *Horta à Porta* Project – Biological Kitchen Gardens of Greater Proto. This network of kitchen gardens has 1172 plots that represent 1172 urban farmers and their families - potential impact of more than 3500 people sensitised – and more than 27 partners (Municipalities, Local authorities, Companies, Institutions) that could themselves represent a dissemination tool to the citizens.



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6. Reasons why the action has been selected for the EWR 2014 Awards :

a) Visibility and communicational aspects:

This action involved the students and the school community and allowed the creation and the promotion of different communication tools: contest guidelines, promotion with the using of the Educafrica's Facebook page, creation of a Community page "*Educate with Energy*" on Facebook and production of a promotional video. A handbook of the construction of a dehydrator will be presented at the end.

b) Quality of content and focus on waste reduction, products reuse or materials recycling:

The promotion of the usage of a solar dehydrator has several major benefits:

- increase of the food durability without losing the nutritional quality;
- reduction of the environmental impact associated with other food conservation solutions, such as the purchase of a new equipment, for example a refrigerator, and consequently the consumption of raw materials, and also its energetic consumption, as it represents one of the most energetic consumers in a household;
- potential reuse of materials to build the solar dehydrator;
- prevention of food waste.

c) Originality and exemplarity:

This action is innovative. It promotes a simple **Do-it-yourself** (DIY) equipment that is cheap, easy to build and easy to maintain with great impacts and results in waste prevention. Furthermore, the food waste problem was addressed and the development of this action increased the cooperation of different kind of entities, such as schools and an NGO, which will be an outset to a wider project at a community level.

d) European reproducibility:

Food preservation is the key to extend what we produce throughout the year. The solar dehydrator can be used everywhere in the world. Created as a simple Do-it-yourself (DIY) equipment, it can be reproduced everywhere in Europe. You only need two days of sunlight to dry the food in it and the food doesn't lose its nutritional elements.

c) Lasting impact:

The use of a solar dehydrator by the citizens has a relevant and long-term impact in the food waste production. The citizens could preserve fruits and vegetables they produce or buy, reducing the environmental impact of their activities.

d) Motivation:

It is really motivating to see a simple action having great results. The cooperation created between different agents, the awareness raised regarding a world's problem (food waste), the environmental impacts generated as a result of a simple solution to increase the durability of food are some of the goals and motivators of this action.



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Webography:

- <https://www.youtube.com/watch?v=L3n6HpNy4e8>
- <https://www.facebook.com/EducateWithEnergy>





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