



LIFE Integrated Projects 2016

Optimising the implementation of the 2nd RBMP in the Malta River Basin District

LIFE 16 IPE MT 008



Action C.4

Educational Programme Strategy

1. Background

This educational strategy shall be implemented through a collaboration with a number of entities, namely:

- The Energy and Water Agency
- Nature Trust Malta
- HSBC Water Programme
- MIO-ECSDE
- Ministry of Education
- Ministry of Gozo

2. The programmes' characteristics

This educational strategy is designed according to the following characteristics:

- To be facilitated by an educator
- To engage a group of students with an average class size ranging from 20 to 25 students
- To address students from different age groups and different abilities.
- To address students from a number of different schools in Malta and Gozo.
- To implement an outreach programme to raise awareness on the scarcity of natural water resources in the Maltese Islands and to promote water conservation mainly amongst the younger generation but also amongst Maltese citizens in general.
- To last between 60 and 150 minutes, depending the particular needs of the students.

3. Objectives:

All educational lessons shall be holistic and cross-curricular. The lessons will be linked to the curriculums of both primary and middle Maltese schools and closely connected to the Maltese natural environment. The programmes' content addresses three educational objectives – knowledge, skills and attitudes. The content addresses these objectives in a way that it:

- Includes basic water knowledge
- Cultivates critical thinking and problem-solving through problem based learning approach.
- Cultivates communication skills
- Inspires informed decisions and responsible action (which will serve as a basis for their everyday lives).

- Cultivates 21st Century skills: these skills are intended to help students keep up with the lightning-pace of today's modern markets.

4. Programme Methodology:

The lessons' methodology will be based on the practices of Education for Sustainable Development, which:

- Is based on the principles and values that underlie Sustainable Development;
- Deals with the well-being of all four dimensions of sustainability: Environment, Society, Economy and Culture;
- Uses a variety of pedagogical techniques that promote participatory learning and higher-order thinking skills;
- Promotes lifelong learning;
- Is locally relevant and culturally appropriate;
- Is based on local needs, perceptions and conditions, but acknowledges that fulfilling local needs often has international effects and consequences.

5. The Educational Strategy Content:

The content of this educational strategy shall include a number of programmes, namely:

- A. A number Educational Programmes that shall be carried on at the Ghajn National Water Conservation Awareness Centre (Rabat, Malta).
- B. The branding, design and printing of a number of educational material to be used both at the Ghajn Centre and in schools, together with the community outreach programmes carried on, both at the Ghajn Centre and at schools in Malta and Gozo.
- C. Training seminars to educators within schools on:
 - the significant water management issues on the Maltese Islands;
 - the significance of the Ghajn Centre as a fundamental tool in Water Conservation and Awareness and;
 - how the activities at the Ghajn Centre can be tied to teachers' teaching schemes as part of their curriculum.
- D. The provision of transport for students to visit the Ghajn Centre and attend the Educational Programme (this shall facilitate the logistical problems within local schools that arise with regards to transport).
- E. The organisation of annual awareness raising events targeted towards the general public (to showcase the work that will be done at the Ghajn Centre and to further enhance the outreach programme in water conservation and awareness).
- F. An annual call for projects in local schools, which shall focus on supporting water conservation educational activities in schools. These project

initiatives shall include an educational dimension aimed at ensuring the active participation of students in the development and implementation of the initiative. The projects need to be undertaken in the school and/or their immediate surroundings. A comprehensive approach, thus involving the whole school must be adopted for these activities.

A. Lesson in a Nutshell (Educational Programme at Ghajn Centre):

Although each lesson shall be targeted towards a different age group. Each lesson shall follow a similar procedure:

- Greet students in the gazebo outside.
- Small introduction about the Centre (name Ghajn: where it comes from)
- A brief talk about water in Malta through history
- Take students to the weather station and explain the instruments.
- Proceed towards the Centre and show the students the grounds.
- Once inside the Centre the students will follow a presentation, which shall address the following:
 - How much fresh water we have on Earth?
 - The Water Cycle
 - Groundwater
 - Where do we get water from in the Maltese Islands?
 - How is water divided in the Maltese Islands?
 - What do we use water for at home?
 - How can we save water? (Discussion)
 - The water footprint
 - Water production in the Maltese Islands
- At this point students will have a short break
- Once back from break the students will be divided into groups and take part in a quiz/ live scenario (according to which interactive game the students will be using later on). Each live scenario shall have a set of teaching aids (puppets, water through the ages game, treasure hunt and assembly of models)
- In the same group setting the students will then do the interactive activities:
 - Sand boxes
 - Wall Games

- Corridor Screens

There are 4 different interactive wall games. Each wall game is targeted towards a different age group:

- ❖ The Water Cycle – This activity is targeted towards 6 to 7-year-old students. The activity starts with a short video that highlights the importance of water for the body and in everyday life. The first part of the activity focuses on the water cycle where students have to create clouds and make rain. Here the students or visitors are shown how the water cycle works. Next, the game also tackles the issue of nitrates as pollution in the aquifers. Here the educator highlights the main polluters of water on a global scale.
 - ❖ The Fairly Hydrated Knight - This activity is more suitable for students aged 7 to 8 years old. The activity focuses on the conservation of natural water resources, and presents existing water management practices which come from our history and culture. The students are required to: stop the rainwater runoff collected in a cistern from becoming polluted, protect an aqueduct from attacking 'monsters', deliver a water bucket from a 'spiera' to the thirsty knight through a maze, and drill shafts to enable water to flow from a spring gallery.
 - ❖ The Water Hero - This game is targeted towards students aged 8 to 10 years old. This activity focuses on the efficient use of water in the home, and presents a water superhero which tackles a number of challenges to improve water use in the home. The activity starts with an outline of how we can use water more efficiently in our homes, and then is followed by the game in which students have to help the water hero to fix tap aerators, volume reducers, efficient showers in homes, and react to other water wasting situations. The game takes students also to the future with a space-home scenario.
 - ❖ The Utility Operator - This activity is targeted towards older students and/or adults. The activity focuses on the provision of water services (drinking water and wastewater treatment). This activity creates linkages between the cost and energy use of different measures and solutions and thus indirectly introduces students to the concept of cost-benefit assessments/decisions.
- At the end of each lesson the students will be given a booklet that complements the lesson and the activities that they have participated in. The booklet will be explained to the students and if they have time the educator will also tackle a couple of the exercises in the booklets together with the students and their teachers. The follow up activities in these booklets can either be tackled at home or at school.
 - Before leaving the premises, the students shall be asked to give in some feedback about the programme whilst the teachers accompanying the students shall be asked to fill in an evaluation sheet. The comments will be taken into consideration by the educators at Ghajn.

B. Branding of Educational Material:

Each interactive game at the Ghajn Centre shall have a number of educational teaching aids. These shall include materials like puppets, games, handouts, flashcards, markers and other material that will facilitate the learning process. Together with the teaching aids, there shall also be an accompanying booklet for each specific interactive game. This shall be in the form of a take home booklet as per educational programme (interactive game), with some key-water facts, together with games, quizzes, comics and exercises. The students can start completing these on site (at the Ghajn Centre), while the programme is taking place and then they can do the follow-up activities at home or at school.

C. Training of Educators (Teacher Training Seminars)

The purpose of these seminars shall be to provide an in depth introduction to primary and middle school Maltese teachers, on the educational activities offers to student-visitors of the Ghajn Centre and consider how these can complement to the formal education students receive on the topic of water and water conservation in the Maltese Islands. The objectives of these training seminars are:

- To introduce the Ghajn National Water Conservation Awareness Centre
- To thoroughly go through the educational activities offered at Ghajn in an experiential way.
- To discuss options how a class visit to Ghajn can be tied to teachers' own teaching and learning strategies

The training shall be based on interactive experiential workshops, where participants shall try out the pedagogic tools and is designed for approximately 15 participants at a time.

The training shall be given by the MIO-ECSDE/MEdIES Secretariat and the educators at Ghajn Centre.

D. Transport:

Transport shall be provided to schools interested in attending the educational activities at the GHAJN Center. Staff from the Centre shall contact the schools to facilitate all the logistical aspects related to the visit. The number of participating students in each visit shall be limited to a maximum of 30 students.

The Educational programme at the Centre shall offer different lessons targeted for primary and middle school students. All activities shall be based on school syllabii themes that could be used as a consolidation to science, history, geography, social studies and environmental study lessons.

E. School Projects:

For the implementation of these school projects there shall be:

- a. A number of meetings with the teachers involved in implementing and facilitating these projects within their schools.
- b. An award ceremony (where funding will be distributed to each chosen school).
- c. An information poster which shall be set up in a highly visible place within the school, outlining information about the water conservation aspects of the project, where thus it will serve as an educational tool for both students and school staff about the project being implemented.
- d. A community outreach activity that shall be organised by the school, which will be crucial in promoting change and in bringing about a positive shift in behaviour in the community.
- e. A final report at the end of the project, outlining the students' involvement in the project and the community outreach activities implemented as part of the project.

F. Water Awareness Events:

The Energy and Water Agency shall organise an Annual Awareness Event at the Ghajn National Water Conservation Awareness Centre in Rabat. This will be achieved through a number of educational and interactive installations and activities housed in the area of the Centre, which will support national educational initiatives on water management and conservation.