Training Course

Climate Change Education Inside and Outside the Classroom

Hotel Bellevue Dominican Bay,
Boca Chica, Dominican Republic
26-29 May, 2014

REPORT ON THE TRAINING COURSE

Presidencia de la República Dominicana
Consejo Nacional para el Cambio Climático
y el Mecanismo de Desarrollo Limpio

inafocam
Instituto Nacional de Formación y Capacitación del Magisterio

Ministry of Foreign Affairs of Denmark

UNESCO
United Nations Educational, Scientific and Cultural Organization

Japan Funds-in-Trust

Foundation

Background

Between January and May 2013, a training course for secondary school teachers on "Climate Change Education Inside and Outside the Classroom" was developed by Dr Lausanne Olvitt, Senior Lecturer in the Environmental Learning Research Centre, Rhodes University and Dr Gillian Cambers, Co-Director of the Sandwatch Foundation. The preparation of this course was supported by the United Nations Educational, Scientific and Cultural Organisation (UNESCO)through the Section for Small Island Developing States and the Section for Education for Sustainable Development. The course was developed in the context of UNESCO's Climate Change Intersectoral Platform project "Climate Change Education for Sustainable Development in African Small Island Developing States (SIDS) and Coastal Regions: Building excellence through teacher education".

The course combines elements from UNESCO's *Climate Change Education for Sustainable Development Course for Teachers* with the Sandwatch programme's methodology(measure, analyse, share and take action - MAST) and has been developed specifically for educators in African coastal regions and Small Island Developing States (SIDS). These regions are especially vulnerable to the impacts of climate change and the challenges it raises for the wellbeing of people and the ecosystems on which they depend. The course supports a range of educators, most especially secondary school teachers, but also teacher educators and community educators, to teach about climate change in ways that reflect the principles of education for sustainable development (ESD).

The objectives of the course are to:

- Stimulate and support the integration of education for sustainable development (ESD) approaches in pre- and in-service teacher education courses, in cross-curricula classroom practice, and in non-formal (community-based) learning programmes.

- Support educators to take local, contextualised action to mitigate and especially to adapt to climate change.

The aims of the course are to:

- Introduce educators to the MAST (measure, analyse, share and take action) application of ESD in the context of climate change.

- Incorporate rigorous scientific knowledge and ethical reflection into climate change adaptation and mitigation approaches and measures in small islands and coastal regions.

- Provide an outline course and supporting documents which educators can use to develop Climate Change ESD programmes, activities or materials specific to their professional and social-ecological context.

This report describes the third roll-out of the course, which took place at Hotel Bellevue Dominican Bay, Boca Chica, Dominican Republic from 26-29 May 2014. The course has already been piloted in at Rhodes University, Grahamstown, South Africa, from 8-11 October 2013, and at Hotel Pestana Tropica, Praia, Santiago,Cape Verde, from 20-23 November 2013. A fourthroll-out is planned for the Pacific SIDS later in 2014 after which the course will be finalised.

Participants

The 32 participants came mainly from SIDS in the Caribbean and from Central American countries and comprised primary and secondary teachers, school principals, teacher educators, educators from ministries of education, and community educators from non-governmental organisations (NGOs). The list of participants is presented as Annex 1.

Agenda

The course consists of three modules and was delivered over a four day period. Module 1 presents some local and global perspectives on climate change and its impacts, as well as giving a background to climate change science and ESD. Module 2 introduces the participants to the Sandwatch approach and includes a field trip which allows participants to investigate past changes and future climate change scenarios at a local beach location. Module 3 provides an opportunity for participants to build on the materials and activities presented and develop an educational intervention that they will undertake on return to their home countries. The agenda for the four day course is presented as Annex 2.

Simultaneous translation provided for the course delivery in English and Spanish.

Delivery of the Course

The training course was opened on 26 May 2014 by Mr Omar Ramirez, Executive Vice-President of the National Council on Climate Change; Ms Rojita Pinales, Director of Continuous Learning, National Institute of Teacher Training (INAFOCAM), and Ms Julia Heiss, Programme Specialist, UNESCO-Education for Sustainable Development. They welcomed the participants to the Dominican Republic where training teachers in climate change is well advanced through the formal education system in accordance with Article 6 of the United Nations Framework Convention on Climate Change. Ms Heiss described the background to the course and its role in changing mindsets about climate change through education.

Opening Ceremony: (from left to right) Ms Julia Heiss, Mr Omar Ramirez, Ms Rojita Pinales

Following this, the participants introduced themselves and outlined their expectations from this course. This was followed by a circle sharing activity during which participants had the opportunity to share their personal experiences and knowledge of climate change.

The circle sharing activity proved a useful way for participants to exchange views on climate change

After the presentations and activities relating to climate change impacts and ESD, there were some interesting discussions about the types of education learners need to cope with climate change. In particular, participants emphasised the need for:

- A holistic approach to climate change education whereby climate change is integrated into all aspects of the curriculum and at all levels. (There was also discussion that this course, while initially designed for secondary school teachers, could be adapted for all levels of teaching).
- Open ended and investigative education
- An ethical and proactive approach to climate justice
- A focus on the school and home environment

Module 1 concluded with presentations and activities on climate change science and distinguishing between adaptation and mitigation.

During the delivery of module 2 the context changed from the global to the local level. After a presentation and activity relating to the Sandwatch approach, a general orientation was given about the location and background to the field trip site and the measurements and activities to be undertaken. After this, participants worked in small groups to carry out some more research into the beach locations using the internet and especially tools such as Google Maps. The field trip to Boca Chica Beach, adjacent to the Bellevue Hotel, took place on 18th May, and the participants divided into three groups to study different sections of the beach.

Before the field trip, participants had a briefing about past changes at Boca Chica Beach by Mr Bienvenido Santana of the Ministry of Natural Resources. They then observed and measured different aspects of the beach to gain an insight into past and future changes. On return from the field trip, participants worked in small groups to prepare key statements about how the beach had changed in the past and prepared scenarios and levels of confidence into how the beach might change in the future as a result of climate change. The results of the investigations were then presented to the main group.

Field trip activities: Measuring the beach and discussing past changes with a local restaurant manager

The third module was presented on the final day of the workshop and after a presentation and discussion contextualising the activities from Modules 1 and 2, participants worked individually with a planning template to prepare a specific educational intervention that would be implemented on their return home. A brief outline of each participant's proposed intervention is presented as Annex 3.

Course Evaluation

At the end of the course, participants completed an evaluation and the results are presented as Annex 4. The questions which related to the organisation, content, relevance and delivery of the course were rated very high, between 6 and 7 (the top score being 7) by more than 90% of the participants. A similar result was obtained in response to the question relating to the participants' competence to implement the education intervention on their return home. Some comments on the course are presented below.

- "The training was well delivered. I found the trainers were very knowledgeable and effective in their delivery of the material. However, I think the training could have been done over a five day period and include more practical activities."
- "I want to thank you for the opportunity to participate in this course. Thanks for such a great job."
- "Good perspective on emphasising the importance of scientific knowledge in climate change education."

Annex 1

Training Course

Climate change education inside and outside the classroom

Hotel Bellevue Dominican Bay

Dominica Republic

26-29 May, 2014

	Participants	Email	Country
Ms	Cynthia Echeverria Lopez	cecheverria@lincoln.ed.cr	Costa Rica
Ms	Aneidy Caravaca Wauters	ancawa21@gmail.com	Costa Rica
Ms	Nadine E. Lawrence	nadine.elawrence@gmail.com	St Kitts
Ms.	Laurencia Hughlisa Walters	Laurencia.tedwalters@gmail.com	Nevis
Ms	Mariam Varga Perez	miriam.vargas.perez1@gmail.com	Costa Rica
Mr	Andy Paul	acpaul2@hotmail.com	Trinidad and Tobago
Ms	Denise Adrianne Simmons	den.simmons100@gmail.com	Guyana
Ms	Petal Jeeto	petaltp@yahoo.com	Guyana
Mr	Mario Angel Bello Hernández	mariob@instec.cu; mariobelloes@yahoo.es	Cuba
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Mr	Daniel Abreu	danielabre@gmail.com	Dominican Republic
Ms	Reyita Pinales	reyitapinales@hotmail.com	Dominican Republic
Ms	Rosalba Reyes	rosalba.reyes@minerd.gob.do	Dominican Republic

Day Attendees

Ms	Maritza Méndez (2)	maritza.mendez.r@hotmail.com	Dominican Republic
Ms	Julissa Ureña (4)	j.urena@unesco.org	Dominican Republic
Ms	María Brito (1)	secgral@cndu.gob.do	Dominican Republic
Ms	Milagros Yost (1)	milagros_yost@hotmail.com	Dominican Republic

Annex 2

United Nations
Educational, Scientific and
Cultural Organization

Training Course
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Module 1 Detailed Agenda

Day 1

8.30 - 10.00 Course Orientation

- Welcome and housekeeping
- Group Introductions
- 1.1 Presentation: Course Overview

10.00 - 10.20 Morning Tea

10.20 - 12.30 Climate Change: Local and Global Perspectives

- 1.2 Activity: Circle Sharing
- 1.3 Activity: Some Climate Change Stories
- 1.4 Handout: Climate Change Impact Descriptions for Africa & SIDS

12.30 - 1.30 Lunch

1.30 - 3.30 ESD as a response to climate change in Africa and SIDS

- 1.5 Presentation: ESD as a response to climate change in Africa & SIDS
- 1.6 Handout: An Introduction to Education for Sustainable Development
- 1.7 Handout: Climate Change & Education for Sustainable Development
- 1.8 Handout: The Focus of Climate Change Education
- 1.9 Activity: Educational Approaches

3.30 - 3.45 Afternoon tea

3.45 - 4.30 Future climate change scenarios?

- 1.10 Activity: Future Scenarios

4.30 - 5.00 Wrap-up Day 1, looking ahead to Day 2

Day 2

8.30 - 9.00 Group discussion on Day 1matters

9.00 - 10.00 Basic Science of climate change

- 1.11 Presentation: Climate Change Basics
- 1.12Handout: Climate Change Basics

10.00 - 10.20 Morning Tea

10.20 - 12.30 Climate Change: adaptation, mitigation

- 1.13 Activity: Adaptation or mitigation?

12.30 - 1.30 Lunch

End of Module 1

Module 2 Detailed Agenda

Day 2

1.30-3.00 Exploring Sandwatch

- 2.1 Presentation: Exploring Sandwatch
- 2.2 Activity: Exploring Sandwatch Small Group Discussion

3.00-4.15 Field Trip Preparations

- 2.3 Notes: Field Trip Logistical Guidelines
- 2.4 Presentation: Field Trip Preparations (this includes information about the activities to be undertaken during the field trip)
- 2.5 Activity: Field Trip Preparatory Work

7.30-9.00 Evening Activity (Optional)

- Demonstration of Sandwatch International Database
- Review selected Sandwatch training videos that cover different types of measurements
- Participants share other beach-related and environmental activities in which they have been involved.

Day 3

8.00-2.00pm Field trip: Travel to/from beach location, complete field activities, picnic lunch
In small groups and at different sections of the beach:

- Observation, record taking, preparation of a group sketch map and discussion of issues at the beach section (~1.5 hours)
- Conduct the pre-prepared survey of residents/beach users' views of how the beach has changed (~1 hour)
- Conduct beach width measurements at 3 places along the selected beach length (~30 minutes)
- Picnic time (~1 hour)

2.30-4.30 Reviewing Past Changes& Building Future Scenarios

- 2.6 Presentation: Reviewing Past Changes &Building Future Scenarios
- 2.7 Activity: Reviewing Past Changes & Building Future Scenarios Small Group Discussion

4.30-5.00 Using the Sandwatch International Database

- 2.8 Presentation: Sandwatch International Database
- 2.9 Activity: Using the Database to Enter Field Trip Data

End of Module 2

Module 3 Detailed Agenda

Day 4

8.30 - 10.00 Preparing a classroom activity

- 3.1 Presentation: Lesson Planning for Climate Change
- 3.2 Handout: Case Studies of Classroom-based Climate Change and Environmental Interventions

10.00 - 10.20 Morning Tea

10.20 - 11.00 Choosing an Educational Intervention

- 3.3 Activity: Choosing an Environmental Intervention

11.00 – 12.00 Developing your educational intervention

- 3.4 Activity: Developing your education intervention
- 3.5 Handout: Planning template

12.00 - 1.00 Lunch

1.00 - 3.30 Developing your educational intervention continued

- 3.6 Handout: Guidelines for Post – Course Feedback

3.30 - 3.45 Evaluation

3.45 –4.00 Closing

End of Module 3

In collaboration with: **Supported by:**

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Annex 3 Summary of Proposed Education Interventions

(List incomplete)

Country	Participants	Nature of the Planned Intervention
Costa Rica	Cynthia Echeverria Lopez	Train (research, presentation, hand-on activities, evaluation) pre-school and elementary teachers about the impacts of climate change and introduce the concept of ocean acidification.
Costa Rica	Mariam Varga Perez and Aneidy Caravaca Wauters	Raise understanding and enhance knowledge about ocean acidification with 4th, 5th and 6th grade students including practical activities.
St. Kitts	Nadine E. Lawrence	Work with high school students in Basseterre to sensitise them about impacts of climate change including rising sea levels and ocean acidification, as well as pollution
Trinidad & Tobago	Andy Paul and Megell Mohammed	Work with primary school teachers and their parents to understand climate change, including sea level rise, including a field trip.
Guyana	Denise Adrianne Simmons and Petal Jeeto	Hold a 2-day workshop with instructors for teacher instruction, focusing on sea level rise and its effects on Guyana, and using the Guyana Mangrove Restoration Project as a case study
Cuba	Mario Angel Bello Hernández and Delia Vera Medina	Hold a short course to build the capacity of secondary school teachers to understand the impacts of climate change, including sea level rise, and hold a field activity.
Jamaica	Marcia Nembhard	Raise the skills of 1st year teacher trainee students (through course in communications) to develop lessons around climate change and rising lake levels including observations, interviewing residents and feedback.
Jamaica	Ann-Marie Wilmot	Work with teacher trainee students during literature and ESD class to develop skills around deforestation and climate change including presentations, guided discovery, observations and evaluation.
Jamaica	Vileitha Davis-Morrison	Field trip to gather information on residents' vulnerability to rising sea levels
Puerto Rico	Brenda Lee Estévez Moreno	Work with high school students to develop an activity on ocean acidification including a chemistry laboratory activity.
Bahamas	Margo Blackwell and Teo Cooper	Hold a mini-workshop with colleagues at the College of the Bahamas on the role of teacher educators in climate change and ESD with a particular focus on sea level rise in the Bahamas.
Guatemala	Julia Flores	Enhance the capacity of environmental educators at different levels about climate change and include a field trip
Panama	Migdalia Ponce	Intervention focusing on sea level rise with 10 teachers based at vulnerable coastal schools and 3-6th Grade students
Dominican Republic	Andrea Rincon	Meet with different teaching institutions to determine how climate change can be introduced as a work unit into natural sciences

Country	Participants	Nature of the Planned Intervention
Dominican Republic	Enoelia Polanco	Work with schools in the Boca Chica district to implement Sandwatch
Dominican Republic	Bernarda Firpo	Work with teachers in 5 coastal schools to understand the impacts of climate change, especially sea level rise, using the techniques at the workshop and Sandwatch, and field observations.
Dominican Republic	Juan Andrés Veras and Griselda Rincón	Intervention in two of the districts of Dominican Republic with the teachers to understand climate change and apply Sandwatch

Annex 4 Course Evaluation

Twenty-five participants completed the evaluation form.

The course was well structured	☐ ☐ ☐ ☐ ☐ ☐ ☐	The course was poorly structured

19 persons rated the question the highest score of 7
5 persons rated the question 6
1 person rated the question 5

The activities gave me the confidence that I can apply the knowledge in my work	☐ ☐ ☐ ☐ ☐ ☐ ☐	The activities did not give me confidence that I can apply the knowledge in my work

16 persons rated the question the highest score of 7
9 persons rated the question 6

I found the Sandwatch Manual useful	☐ ☐ ☐ ☐ ☐ ☐ ☐	I did not find the Sandwatch Manual useful

Unfortunately only Spanish manuals were provided – so the English-speaking participants did have the advantage of using the Sandwatch manual in their own language. These had to be mailed to the English-speaking participants after the course.

17 persons rated the question the highest score of 7
3 persons rated the question 6
5 persons did not answer the question because they did not receive a manual in English

I learnt things that will be useful to my classroom	☐ ☐ ☐ ☐ ☐ ☐ ☐	I did not learn things that will be useful to my classroom

23 persons rated the question the highest score of 7
2 persons rated the question 6

The facilitators made the material enjoyable	☐ ☐ ☐ ☐ ☐ ☐ ☐	The facilitators did not make the material enjoyable

17 persons rated the question the highest score of 7
7 persons rated the question 6
1 person rated the question 5

I am confident that I can implement the activity I planned in Module 3	☐ ☐ ☐ ☐ ☐ ☐ ☐	I am not confident that I implement the activity I planned in Module 3

17 persons rated the question the highest score of 7
7 persons rated the question 6
1 person rated the question 5

I would recommend this course to my colleagues	☐ ☐ ☐ ☐ ☐ ☐ ☐	I would not recommend this course to my colleagues

25 persons rated the question the highest score of 7
1 person rated the question 6

Do you have any further comments or feedback about any aspects of the training?

- Participants who arrive on the morning of the first day of the course should be brought in a day earlier
- I have to confess that I don't know the manual well, so I think it will be important to give all the knowledge to the communities and the authorities where the projects are being implemented.
- Excellent teaching tool for climate change education work
- Prepare a blog where we can exchange our climate change activities, more information about other Sandwatch activities.
- Excellent
- A few more practical sessions like the one we had on the beach on Wednesday. Appreciate electronic copy of presentations
- Great
- More practical course activities
- I want to thank you for the opportunity to participate in this course. Thanks for such a great job.
- Good perspective on emphasising the importance of scientific knowledge in climate change education
- Keep it up. More work should be done on the beach or in the environment whether it is land or sea.
- In a little time I have learnt much about climate change and how I must work
- Need for more practical work in the field – need 2 days in the practical fieldwork.The training was well delivered. I found the trainers were very knowledgeable and effective in their delivery of the material. However, I think the training could have been done over a five day period and include more practical activities.