REPORT ON THE TRAINING COURSE:

"Climate Change Education Inside and Outside the Classroom"

Hotel PestanaTropica, Praia, Santiago, Cape Verde, November, 2013



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 done at the request of the United Nations Educational, Scientific and Cultural Organisation (UNESCO) through the Section for Small Island and Indigenous Knowledge 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 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.

In consultation with UNESCO, Drs Cambers and Olvitt agreed to implement the course twice during its pilot phase, monitor the accessibility and relevance of the course materials and activities, and to finalise the course package by the end of 2013. The course was first piloted at Rhodes University, Grahamstown, South Africa from 8-11 October 2013. The participants came mainly from East and southern Africa and comprised secondary teachers, government officials, teacher educators and community educators from non-governmental organisations (NGOs).

This report describes the second implementation of the course which took place in Praia, Santiago, Cape Verde, from 20 – 23 November 2013. The course was organised by UNESCO and hosted by the UNESCO National Commission to Cape Verde under the directorship of Mrs Gloria Ribeiro, and was conducted at the PestanaTropica Hotel in Praia.

Participants

The 27 course participants came mainly from West Africa and Cape Verde. The group comprised secondary teachers, teacher educators, government officials and community educators from non-governmental organisations (NGOs). The list of participants is presented as Annex 1.

It is noteworthy that, although the course was developed primarily for secondary school teachers and teacher educators, with a view to developing capacity to understand climate change and integrate it in the school curriculum, many of the course participants were highly qualified and experienced environmentalists and/or educators, for example a Professor of climatology, the Chief Executive Officer of an environmental NGO, and two directors of United Nations Regional Centres of Expertise (RCEs) in Education for Sustainable Development.

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 in Cape Verde is presented as Annex 2.

Delivery of the Course

The training course was opened on Wednesday 20th November by the President of the Cape Verde National Commission for UNESCO and Minister of Higher Education, Science and Innovation, Mr AntónioCorreia e Silva; a representative of the Director-General of the Ministry of Environment, Mr AntónioQuerido; a representative of United Nations Development Programme (UNDP), Mr Inderlindo Santos; the co-director of the Sandwatch Foundation, Mr Paul Diamond and the organizer from UNESCO, Mrs IkhlefKhalissa. In his speech, Mr Correia e Silva highlighted the crucial role of education in responding to challenges posed by climate change and suggested that the course was more than a training programme, but also an act of environmental activism and commitment.



Panel of dignitaries at the official opening of the course: (from left) Mrs Khalissalkhlef; Mr AntónioCorreia e Silva; Mr Inderlindo Santos; Mr AntónioQuerido and Mr Paul Diamond.

Following a morning tea break and re-arrangement of the teaching venue, the participants introduced themselves briefly and Dr Olvitt gave an overview of the course aims, orientation and structure. The group activity to read and discuss case studies from other Small Island Developing States (SIDS) opened up the topic of human vulnerability in the context of climate change and the complex interplay of its social, cultural, economic, ecological, technological and political dimensions. Due to the inclusion of the opening ceremony in the course programme, the content of Module 1 had to be slightly abridged.

The challenge of language became apparent from the start of Module 1. Despite an effort having been made to select course participants with moderate to good English communication skills, several participants struggled to follow the presentations in English and required either French or Portuguese translation. The course materials had been previously translated into French and this assisted the Francophone participants greatly. The PowerPoint presentations were also available in French and two data projectors were used throughout the course to project the slides in English and French simultaneously. Mrs Ikhlef translated and facilitated vital exchanges into French, and staff of the National Commission, when available, assisted with Portuguese translation. Despite these substantial efforts, as well as the adaptation of some activities, the facilitators reflected that the language barrier substantially compromised the depth and nuance of the course interactions for the Portuguese-speaking participants. Similar reflections were noted by some participants in the course evaluation (see Annex 4)



A staff member of the National Commission assisted Portuguese-speaking participants to understand a group activity.

After lunch, participants reflected on nine characteristics of ESD, as presented in the course materials, and share illustrative examples from their own contexts within their language subgroups. This was followed by a circle sharing activity during which participants had the opportunity to share their personal experiences and knowledge of climate change.

Module 1 was concluded before lunch on Day 2 with presentations and activities on basic 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 by Mr Diamond, a general orientation was given about the location and background to the field trip site and the measurements and activities to be undertaken.

The field trip to a local beach on Praia involved participants visiting KebraCanelaBeach and was the main activity on Day 3 of the course.

During the field trip, participants had a briefing from Ms Margarida Santos, Coordinator of the Unit for Environmental Sanitationabout therecent history and current challenges facing the beach by a

representative from the Ministry of Environment. 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 draw maps of the beach based on their observations and to consider how the beach might change in the future as a result of climate change.





A briefing by Ms Margarida Santos, Coordinator of the Unit for Environmental Sanitation, Ministry of the Environment about recent beach changes provided useful information before participants commenced with their own observations and measurements.



KebraCanela Beach was a very suitable site for the Sandwatch activities.

The third module was presented on the final day of the course and after a presentation and discussion contextualising the earlier activities, participants worked individually with a planning template to prepare a specific educational intervention that would be implemented on their return home. (Summaries are presented in Annex 3).

A few participants who already had links with the Sandwatch Foundation outlined their plans to extend or revive the Sandwatch activities with local schools, while several other participants expressed a willingness to introduce Sandwatch in their local context. It was interesting to note that the majority of planned educational responses involved explicit awareness raising activities, either about climate change in general or about local, context specific climate change-related risks such as rising sea levels, coastal erosion or the importance of mangrove forests. Other planned educational interventions took a strong action approach such as initiating tree planting activities in rural schools.

Participants were informed that they should report to UNESCO in March 2014 on the progress made and lesson learned following the implementation of their proposed educational activities.

The official course closing ceremony was officiated by a panel of speakers comprising: Mrs Gloria Ribeiro, Executive Secretary of the UNESCO National Commission to Cape Verde; Mrs Margarida Santos, National Director for Education; Dr Antero Veiga, Minister of Environment, Housing and Land Management; and Mrs Khalissalkhlefof UNESCO's Science Policy and Capacity Building Division. Two course participants opened the ceremony by sharing their personal reflections on the course and thanking UNESCO and the course facilitators for providing this valuable experience.

Course Evaluation

At the end of the course, participants completed an evaluation and the results are presented as Annex 4. Twenty of twenty-seven participants completed the evaluation form. (The incomplete record is due to the shortened programme on Day 4 due to the closing ceremony; participants were filling in the evaluation forms immediately prior to changing venues).

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 90-100% of the participants who completed the evaluation. A similar result was obtained in response to the question relating to the participants' competence to implement the education intervention on their return home (85% gave the highest rating of 7).

Annex 1

List of Participants



Climate Change Education Inside and Outside the Classroom training workshop (20-23 November 2013, Praia, Cape Verde)

Interna	ational participants Names	City/Country	Title/Position	Organisaiton	Email
1 Mr MAS	ANGO SOLOMON Sone	Buea, Cameroon	Executive Director	Green Cameroon. Also Board Chair, UN Regional Centre Of Expertise on Educaction For Sustainable Development(RCE Buea)	masango@greencameroon.org
2 Mr NAN	A Paul Alain	Yaoundé, Cameroon	Environmental Educator and Trainer. Also Program Officer at the NGO	Vital Actions for Sustainable Development [AVD].	nanapaul4life@yahoo.fr
3 Mr MOU	SSA Ben Anthoy Bacar	Moroni, Comores	Teacher and researcher. Also IPCC and IPBES Comoros focal point	Ecole Française Henri Matisse, Moroni. Faculté des Sciences et Techniques, Département de Biologie Végétale, Université des Comores.	benanthoy@yahoo.fr
4 Mr ADDA	AE Paul Graham	Banjul, Gambia	Teacher. Also National Secretary of The Gambia ASPnet	Nusrat Senior Secondary School ASPnet	pauladdae1960@yahoo.com
5 Mr SEGI	LAH Andrews	Teshie-Nungua Estate, Accra, Ghana	Projects and Program Manager	Community Sustainable Development	lordmasel@yahoo.co.uk
6 Mr ARTH	HUR James Benjamin	Kumasi. Ghana	Municipal Education Director and Focal Trainer on DRR. Also teacher	KEEA Municipal Area.	kwamekor50@gmail.com
7 Ms DIAL	.LO Néné Kadiatou	Conakry, Guinea	Scientific researcher	Centre de Recherche Scientifique de Conakry Rogbane (CERESCOR) – Guinée	nkdiallo@gmail.com_
8 Ms ADE	LINO LOPES Noémia	Guinea-Bissau	Teacher	Ecole Joao Marcelino Banca, en Bubaque, Guinée-Bissau	niraidelopescumprido@qmail.com
9 Mr FERN	NANDES Mauricio Augusto	Guinea-Bissau	Teacher and Director	Ecole de verification Ambientel de Varela, Guinée-Bissau	mauricioeva62@hotmail.com; jraylopes@yahoo.com
10 Mr SANG	OGO Saïbou	Bamako, Mali	Researcher	Institut Economie Rurale (IER), Programme Ressources Forestières (PRF), Bamako, Mali	saibou_sanogo@hotmail.fr
11 Ms ADE.	JOH Stella Ojone	Kogi, Nigeria	Project Officer	Kogi State Community and Social Development Agency	stelloken@yahoo.com
12 Mr ATI O	Djonigu Friday	Kogi, Nigeria	Dean	Faculty of Arts, Management and Social Sciences, Federal University, Dutsin-Ma, Katsina State	nigu30@gmail.com; nigu30@yahoo.com; oati@fudutsinma.edu.ng
13 Mr OKO	RO Okorie Uka	Ebonyi, Nigeria	Coordinator	Regional Centres of Expertise (RCE) Lagos	okrieokoro@yahoo.com; godwillsokorie@yahoo.com
14 Ms OYA	TOGUN Oluwafunmilayo	Lagos, Nigeria	Founder	BailiffAfrica.Org, "The Voice of GREEN in Africa."	funmi.oyatogun@gmail.com, funmi.oyatogun@yahoo.com
15 Mr PERE	EIRA DE SOUSA Oscarito	Sao Tome	Director	École Secondaire Maria Manuela Margarido	oscaritosousa2@hotmail.com

16	Mr TANDIAN Aly	Saint-Louis Senegal		Projets de l'Insertion & de l'Innovation, Département de Sociologie. GERM & Faits 2 Sociétés, Université Gaston Berger de Saint-Louis	Aly.Tandian@ugb.edu.sn
17	Mr SENGHOR Abdou	Senegal	Director	Ecole d'application de Fatick /centre régional de formation du personnel de l'éducation (CRFPE)de Fatick/IEF/Fatick	senghorabdou@yahoo.fr
18	Mr GBEMOU Komi Mawunya		Environmentalist, and chief	Bureau d'Etudes à la Direction Régionale de l'Environnement et des Ressources Forestières de la Centrale	m02gbemou@yahoo.fr
19	Mr DIAMOND Paul Matthew	Toronto, Canada	Co-director	Sandwatch Foundation	bones@sisterisles.kn
20	Ms OLVITT Lausanne Laura	South Africa	Senior lecturer	Rodhes University	L.Olvitt@ru.ac.za
21	Ms IKHLEF Khalissa	Paris, France	Programme Specialist	Science Policy and Capacity Building Division (SC/PCB/SII), UNESCO HQ	k.ikhlef@unesco.org

Local participants (Name) City

	Local participants (Name)	City					
	Local Participants Names	City/Country	Title/Position	Organisation	Emails		
22	M. Albertino Martins	São Vicente, Cap-Vert		IUE de l'ile de São Vicente	titinomartins 68@gmail.com		
23	Mme. Paulina Barreto	Praia, Cap-Vert		IUE à Praia	barreto.paulina44@gmail.com		
24	M. Joaquim Furtado	Praia, Cap-Vert		IUE à Assomada (Institut Universitaire de l'Éducation)	jfurtado8@yahoo.com.br		
25	M. Carlos Sanches	Praia, Cap-Vert		Ministère Education			
26	Esmeralda Conceição Semedo	Praia, Cap-Vert	Teacher	École Sec. Constantino Semedo			
27	Mme. Maria José Pires	Praia, Cap-Vert	Director and teacher	ES Pedro Gomes, trained to Sandwatch in 2009			
28	Ineida Barbosa	Praia, Cap-Vert	Teacher	Trained to Sandwatch in 2009			
29	Edite Ferreira	Praia, Cap-Vert		Escola Sec. Pedro Gomes			

Annex 2

Training Course Climate change education inside and outside the classroom

HôtelPestanaTropico Praia ,Cape Verde 20-23November, 2013

Agenda

Module 1 Detailed Agenda

Day 1 - 20 November 2013

	Day 1 - 20 November 2013								
8.30 - 10.00	 Course Orientation Welcome and housekeeping Group Introductions 1.1 Presentation: Course Overview 								
10.00 - 10.20	<u>Break</u>								
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	<u>Lunch</u>								
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	<u>Break</u>								
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 - 21 November 2013								
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 Break
- **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 - 21 November 2013

1.30-3.00 Exploring Sandwatch

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

3.00-4.15 <u>Field Trip Preparations</u>

- 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 - 22 November 2013

8.00-2.00pm <u>Field trip</u>: 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

End of Module 2

Module 3 Detailed Agenda

Day 4 - 23 November 2013

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	<u>Break</u>							
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	<u>Lunch</u>							
1.00 - 3.30	 Developing your educational intervention continued 3.6 Handout: Guidelines for Post – Course Feedback 							
3.30 - 3.45	<u>Evaluation</u>							
3.45 –4.00	Closing							

End of Module 3

Annex 3: Proposed future activities by participants

Name	Proposed activity
Abdou Senghor, Senegal	Restoration of biodiversity activities in the country and development of improved stoves. Observation - assumptions - analysis - synthesis - Evaluation
Mr Pereira de Sousa Oscarito, Maria Jose Pires, Edite Ferreira Esmerelda Marque, Cape Verde	Focus on erosion, saltwater intrusion and loss in agricultural productivity to create awareness about climate change with students and the community using short videos.
Addae Paul Graham, The Gambia	Workshops with teachers and students on land and sea erosion
Arthur James Benjamin, Ghana	Working with teachers and students on climate change and beach erosion
AtiOjonigu Friday, Nigeria	Working with teachers and students on using shelter belts to combat desertification
GbemouKomiMayunya, Togo	Activities with primary schools to carry out planting around the schools
Masango Solomon Sone, Cameroon	Working with community members to create awareness of climate change, and for those communities near the coast using some of the Sandwatch activities
Moussa Ben Anthony Bacar, Comoros	Visiting degraded sites and creating awareness about the need for reforestation with students and communities
Nana Paul Alain, Cameroon	Replanting programme around the school and in the community
OkoroOkorieUka Nigeria	Working with the youth and fishermen to understand climate stresses for fish and fishing practices
Seglah Andrews, Ghana	Working with the community to address beach erosion and mangrove degradation
TandianAly, Senegal	Working with the communities and carrying out research into climate change and forced migration for the community of Saint Louis in Senegal
Adejoh Stella Ojone, Nigeria	Working with students and community youth groups in the area of deforestation and planting along river banks
OyatogunOluwafunmilayo, Nigeria	Secondary students, beach erosion and coastal inundation and Sandwatch
Participants from Cape Verde	Working with primary and secondary students to combat deforestation in the coastal zone

Annex 4

Course Evaluation

Twenty participants of twenty seven completed the evaluation form.

The course was well structured								The course was poorly structured
16 persons rated the question the highest score of 7(80%) 4 persons rated the question 6								
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
15 persons rated the question the highest score of 7(75%) 4persons rated the question 6 1 person rated the question 4								
I found the Sandwatch Manual useful								I did not find the Sandwatch Manual useful
14 persons rated the question the highest score of 7(70%) 6 persons rated the question 6								
I learnt things that will be useful to my classroom								I did not learn things that will be useful to my classroom
15 persons rated the question the highest score of 7(75%) 3 persons rated the question 6 1 person rated the question 5 1 person did not complete the question								
The facilitators made the material enjoyable								The facilitators did not make the material enjoyable
14 persons rated the question the highest score of 7(75%) 5 persons rated the question 6 1 person rated the question 4								
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(85%) 2 persons rated the question 6

1	person	rated	the	question	5
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I would recommend this				П	П		П	I would not recommend this
course to my colleagues	Ш	Ш	Ш	Ш	Ш	Ш	Ш	course to my colleagues

19 persons rated the question the highest score of 7(95%)

1 person rated the question 6

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

- It will be good to include Sandwatch program for riverine areas since not all participants live along ocean/ coastline.
- The duration of the course was too short.
- Really do hope there will be enough follow-up and continuity.
- Please ensure a follow-up to ensure the knowledge does not rot.
- More people should be given the chance to be taken through the concepts of climate change
- The training was an eye-opener in many ways.
- I hope that for the next training an official translator will be hired to ensure a Portuguese translation
- I would have preferred that excursions have priority over theoretical course
- More workshops should be envisaged for French-speaking countries, to be able to involve more teachers from Western Africa, as well as researchers from institutions. Register all participants to the UNESCO Sandwatch network.
- I thank the generosity of the facilitators. Thanks
- No comments: Sandwatch approach flexible and that can apply to all school levels
- The lack of interpretation sometimes prevented to understand all the comments
- We liked the trilingual aspect of the training, but it would be better to have in a future a simultaneous translation
- Strengthen the groups by giving them additional information and trainings in disaster risk management