

Embedding conservation education in school curriculum teaching and learning – four education authorities in Cameroon partner with the conservation community to develop teacher training and classroom resources based on national species, case studies and data sets.

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Summary

Cameroon has a wealth and diversity of globally important habitats, species and natural resources. There is however much hostility to modern conservation activity. In an initiative supported by conservation, research and environment organisations and education authorities, school teachers and environment experts have worked together to produce teacher training resources based on Cameroon species, case studies, data sets and other local source material, all of which support the teaching of existing curricula as well as conservation. The cross curricular approach has been popular with teachers and education authorities. A survey of teacher's attitudes towards and knowledge of environment and conservation issues was made in secondary and primary schools of four education authorities (1060 teachers in 110 schools, in four regions, anglophone and francophone, were surveyed) – this enabled us to identify and focus on priority conservation topics. Using an iterative and participatory process, resources featuring gorillas, wildlife laws, gorilla tourism, conservation research, protected areas, as well as extractive industries and waste management were designed by groups of educators, reviewed in teacher workshops, and tested in >50 schools. Process, example outputs, schools feedback and impact assessment based on before and after teacher surveys are reported.

UNAFAS CVP has been developing, testing and delivering environment and conservation education for schools and communities in Cameroon since 2004. Work that began in the 1990s, led by the Biosynergy Institute with a strong Empathy Education focus, has been progressively developed, and extended. Most environmental education in Cameroon has been species and habitat focused conservation education, carried out by the international conservation community. We changed the emphasis - using environmental issues, information, wonder and charismatic national species as tools *to help schools deliver basic education*. Schools in Cameroon have been poorly resourced, in terms of infrastructure, training, funds and teaching resources. Because they are often struggling to deliver core subjects, there is little interest or motivation to divert time or attention to 'new subjects.' We have focused on making environment and conservation education worthwhile and interesting to schools, by carefully selecting and providing material that can be used as text for literacy or language studies, images for 'picture talk', articles for debate, and simultaneously contribute to environmental education. We have used an holistic action research approach and materials, employing development education pedagogy with community and culture centred methodologies.

¹ ISTP

² Cameroon Baptist Convention

³ Presbyterian Church of Cameroon

Most of our work had been in English speaking areas. In 2010 we made a concerted effort to extend our partnerships, including French speaking schools and regions (which have a different educational system and different syllabuses), and also engaging environment and conservation actors and organisations in our moves to embed environment education in the school system. The latter have tended to focus on geographical areas close to their projects, and to partner with individual institutions rather than education authorities. This project involved four national, voluntary education providers, all of which also run higher and professional education institutions, initial and in-service teacher education. The project focused on four of Cameroon's ten regions, enrolment and teacher statistics (table 1) provide an indication of scale.

Education provider	Level	Schools	Teachers	Pupils	Regions involved in the project
CBC (Cameroon Baptist Convention)	secondary	13	339	5723	NW, SW, Centre
PCC (Presbyterian Church in Cameroon)		21	593	9971	NW, SW, Littoral
National Catholic Secretariat		28	587	9258	NW
EEC (Eglise Evangelique du Cameroun)		16	460	7000 estimated	Littoral, West
SECONDARY SCHOOL (COLLEGE) TOTALS		78	1979	31952	
CBC	primary	136	566	18,887	NW, SW
PPC		204	974	33,967	NW, SW
National Catholic Secretariat		250	1231	38,806	NW
PRIMARY SCHOOL TOTALS		590	2771	91,660	

Table 1 – Teacher and enrolment statistics of participating education authorities in project regions.

Partners from the environment sector included Great Ape focused organisations (ARCUS Foundation, The Gorilla Foundation, Ebo Forest Project, Projet Grandes Singes). WWF Great Apes Programme provided material for a case study on Wildlife tourism, eco and responsible tourism. RELUFA and CED contributed expertise, information and materials on mining and extractive industries, UNAFAS CVP on waste management, tree planting and field visits, LAGA on wildlife and forestry law and law enforcement, ANAFOR (l'Agence Nationale d'Appui au développement Forestier) on tree planting, and the PACE project (Siren Conservation Education and Tusk) on ESD.

Three regional working groups were established, composed of environment & education experts. Environment experts provided: publications, reports, maps, species lists, newspaper reports, stories, and data sets, related to their area of activity. Education experts, teachers and teacher trainers then worked together and individually to select, summarise and edit the material provided, some also produced original resources from field visits, and interviews. Seminars were organised with wider groups of +/-60 educators, presenting our goals and approach (these included teachers, principals, school managers, inspectors and trainers. The PACE⁴ resource was shared, as a model that has been popular both in Cameroon schools and other African countries, along with examples of CVP

⁴ www.paceproject.net

EE resources and teacher guides. These existing resources were presented with the message that our goal is to design, test and produce teachers' resources based on local case studies and information from Cameroon. In the second half of each seminar, draft materials produced by the working groups were shared amongst participants and small groups were tasked to identify if and how these could be used to teach topics on the syllabuses they follow. Suggestions were overwhelming, as was the interest and enthusiasm of teachers, both in the task and the material.

Booklets of the most popular material were produced and distributed to selected schools for testing. We followed recommendations from seminar participants to include example lesson plans in the booklets, which they said would guide teachers, most of whom are not accustomed, and lack confidence to use new content in their teaching. Thirty eight secondary and thirty three primary schools were involved in the testing process. Booklets were returned at the end of the year, containing feedback from teachers in school. Because this fell at the end of the school year in some case teachers provided comment, whilst others tested with students and reported on this. They were also reviewed by external education experts, and environment experts. Comments were incorporated into the final drafts.

The material output of this process is an educators' resource, arranged in chapters which contain maps, fact sheets, background information, a glossary, case studies, as well as an Empathy Education 'Conservation through Communication' chapter. Gorillas are a front cover Ambassador species (the 'Cameroon' or Cross River gorilla is the world's most threatened primate), with sections on gorilla conservation and research, tourism and Cross River gorillas. Other topics include wildlife and forestry law, extractive industries, waste management, and tree planting. Lesson plans are for Forms three through upper six, and link to topics on economics, citizenship, geography, biology, maths, religious studies, French, English syllabuses. At level one primary, lessons for reading and listening comprehension, picture talk, role play, painting, drawing, vocabulary, and storytelling have been devised; at Primary Level 2 and 3, listening comprehension, reading comprehension, guided writing, spelling, picture comprehension, and communication.

The teacher survey provided a huge amount of information on teacher attitudes and knowledge, which we will report on elsewhere. An unexpected outcome was the positive impact of the survey process: teachers, education authorities and school administration engaged with the survey far beyond expectations. Teachers were very interested in the information covered by the survey. They took time to complete the questionnaires, did so thoughtfully and many discussed at length what the 'right' answer was. Administrators supported the logistics carefully, and have developed plans to use the findings and follow up surveys for school evaluations and as a tool for professional development planning. The timing of the second "follow-up" survey was too soon, determined by the funding cycle rather than activity schedule. However, comparison of the before and after responses did show small changes in the breadth and depth of teachers' definitions of environment and conservation, that we suggest resulted from discussions around the survey.

How did the survey inform our work? Responses indicated that awareness of environment and conservation is high, but knowledge is local. Understanding of modern environment issues like biodiversity, sustainable development, and climate change (the modern global debate) is limited. We therefore produced and included a glossary in the educators' resource, and included sections with definitions in the various chapters, of ecotourism and responsible tourism for example. Teacher choices indicated a particular interest in 'place-based' material. These have been included in the educators' resource, with special attention to provide the links to global contexts.

Teachers participating in this project were appreciative. The information was important and useful to them as individuals as well as educators – they do not have easy access to this kind of data and value it. Teachers in the working groups appreciated and enjoyed the opportunity to be creative curriculum developers. Their colleagues valued material and trainings developed at the grassroots. Educators and the ministry valued the resources for their use of local examples, relevant to people's lives and futures. Education authorities welcomed the opportunity to host training for their staff, training that enhanced teachers' capacity far beyond pure environmental education. Indeed, environmental education has been welcomed **because** it provides training in pedagogic, ESD and development education approaches, and as such, is appreciated as valuable capacity building for education in general.

The work continues.