

**Environmental education in the Galápagos: 2007 report to
the Charles Darwin Foundation**

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As a volunteer working with the Charles Darwin Foundation (CDF) in teaching at the high school in Puerto Ayora from September 2006 to January 2007, it seemed necessary to write about the condition of the environmental education in the Galápagos archipelago. This is a non-solicited report to the CDF about my observations of the status of environmental science education in the Galápagos during this period. The work took place with year 10-12 students at the Colegio Nacional Galápagos (CNG) in the departments of science, English and tourism. It appeared necessary because of the extreme lack of information available about education in such an important location. The main responsibilities were to teach English and environmental education as needed by teachers and administration, and help in the school with student learning.

Students are future community leaders, and their environmental awareness is critical in developing stakeholder decision-making capacity. It is critical to improve community involvement in action concerning the preservation of bio-diversity and the minimization of human impacts on this island environment. My paper reports observations on environmental education, and discusses the effectiveness of some CDF formal education environmental learning programs.

Environmental education in the formal education system is discussed, lessons learned put forward, as well as suggestions for future projects. If no articles or evaluations were found, it is possible they exist, but the researcher could not locate them at the Charles Darwin Research Station (CDRS) library or the Internet at the time of this writing.

The implementation of environmental education programs in the formal school system is a very complicated issue. This is not a formal evaluation paper (Stepath, 2005), but a discussion of environmental education strategy implications in the

Galápagos. Past programs are reviewed in order to work toward future positive and creative solutions to environmental problems.

Environmental education has been a primary objective of the CDF since its inception (Lizana, Davis-Merlen, Avcart, Bensted-Smith, Bustamante, Gardener, et al., 2000a), and there have been environmental education programs in effect since the 1960s (Herrera-MacBryde, 1982; Reck, 1985). The earliest article found addressing this issue was written in 1982 and the last in 2000. Articles about the subject were found in the station's library and on the foundation website, along with researcher observations they provide the basis for this paper.

Lizana, et al. (2000a) stated that objectives for social participation contribute to the CDF strategy of Galápagos marine and terrestrial conservation, while complementing scientific research. The CDF intended to achieve this by carrying out four major social programs: 1. General environmental education and training to increase environmental process understanding in Galapagos and generate conservation appropriate lifestyles. A program with long-term projections fundamentally involved in the formal educational system and to develop non-formal education activities for children, youths, and teachers. 2. Communication campaigns to reinforce the conservation understanding, participation, and collaboration of public and social organizations. The range of action is mainly local, but campaigns are also carried out to achieve national and international support. 3. Strengthening social organizations to encourage their integration and participation in regional conservation processes. Marine Reserve work is carried out with groups of stakeholders that compose the Participatory Management Group and other support groups; in the terrestrial area, work is done directly with farmers and other groups involved in the transport of products of animal and plant origin. 4. Environmental advice to groups and institutions for the creation of policies, norms, and procedures (p. 2). In this report I will only be addressing the first program.

Many projects have been implemented in the Galápagos by CDF over the years to develop environmental awareness, understanding and values through activities that emphasize humans relations with their environment (Herrera-MacBryde, 1982). Programs have continued this process with environmental education programs in 25 island schools, a conservation club (Club Renancer) for 8 to 12-year-old children, educational radio programs broadcast six days a week (Ponce, 1995) into the 1990s.

The latest information I could find regarding the implementation of CDF environmental education programs was in 1999, and these included workshops for teachers, scholarships for university extension courses, sustainability workshops for farmers, marine reserve workshops for fishermen, courses about naturalist guides, CDRS personnel talks on scientific and technical topics, English, 40 courses in computer use, and the organization of vocational field trips for children and youths (Lizana, Davis-Merlen, Avcart, Bensted-Smith, Bustamante, Gardener, et al., 2000b). The CDRS signed a cooperative agreement with the Galápagos National High School in Puerto Ayora in 1999 and published a book entitled "*Un montoncito de tierra en el mar*", and other related texts. The CDF also published a manual on the production of didactic material, and carried out secondary school teachers' workshops on three islands. The CDRS started the "teachers and students on board" project for teachers to learn on boats and then share their experiences. In the year 2000 many projects were prepared for formal education (Lizana, Davis-Merlen, Avcart, Bensted-Smith, Bustamante, Gardener, et al., 2000c).

Problems existed in the Galápagos formal education system, since "the subjects that children study in elementary schools in the islands are exactly the same as you would find in any little village in the Andean highland" (Anhalzer, 1998). MacFarland and Cifuentes (1996) express that "the public educational system in Galápagos has virtually no specially designed components adapting to the unique ecological conditions, conservation needs and human reality of the islands. The curricula used are basically those designed for continental Ecuador. The schools are not equipped with the human, physical plant, curricula design or other educational resources needed to attend to the needs of a rapidly growing student population. "The educational system does not appear to have contributed substantially to improve the quality of life of the population, nor to provide training for employment and careers needed in the special island situation (e.g. tourism industry), nor to informal education of the family. This is a particularly disconcerting situation because one of the serious problems connected with the migration-driven population growth is that the immigrants have an extremely poor to nil understanding of conservation concepts and practices. The general attitudes range from 'subsisting at whatever cost' to 'making oneself rich within a few months'" (p.2).

Observed situation in the Colegio Nacional Galápagos (CNG)

My 5 months (Sept 2006-January 2007) experience in the Galápagos was as a CDF volunteer. My environmental education work was with Sandra Tabia, in CDF's Technical Assistance Department, and I taught approximately one hundred 15-18 year old students at the CNG, under the direction of María Lopez. This supported the classes of five teachers (4 science and 1 tourism) on at least a weekly basis (I also helped other teachers periodically). It was a wonderful experience for me, and I have the utmost respect for the educators working there. The problem was a severe lack of student and teacher support materials, minimal teacher training opportunities, and a lack of support for learning in the community.

The schoolteachers and administrators I worked with at the CNG were, by and large, very committed to teaching and helping the students learn. Many of them worked many hours of overtime and contributed personal resources to their students' education. The classroom resources were very weak, with antiquated facilities, cramped rooms, old and limited library facilities, limited technology equipment and support, antiquated and overcrowded playground and recreational facilities, minimal in-service teacher training opportunities, and little support for teachers such as teacher organizations or unions (El Colono, 2006). Even though support facilities were weak and classes large, the teachers were observed to do a good job with the facilities at hand, and contributed weekends and other free time to student learning.

The support for teachers on the island was not adequate for sufficient advancement of student conservation learning. One example of a problem was when a local science teacher was met on the Charles Darwin Research Station grounds and wanted to buy a fish species identification book for his students. The store was out, and he could not use the CDF library since he was not staff. So he made copies of the library book to use, but he only had one copy for his class and they were not in color.

Another example was a 4-day biology class field trip to a neighboring island in order to monitor Flamingos and other coastal birdlife near Puerto Villamil, Isla Isabela. We had 26 students, 4 teachers and assistants, one ranger from the Parque Nacional Galápagos (PNG). It was a great trip and wonderful learning experience, but the students had only two species identification books on the trip (and one of them was mine).

There is an extreme shortage of resource material and identification books in the schools and libraries. Even the ID books we had on this Isabela trip were in English, and I believe no such species identification books exist in Español. Many students receive little education support outside of school. The island does not appear to have a culture that supports learning, and the families are relatively uneducated, so many parents are not able to support their children's education. The schooling provides activities for the students all day and many socialize with friends, but the time spent in school does not always lead to productive learning. A quality education did not appear to be available to many of the students.

My experience at CNG reinforced the idea that Galápagos students have weaknesses in math, science, composing and organizing written material, report writing, observations, hypothesis formulation, foreign language skills, service related work and job skills, critical thinking and understanding of natural systems. In the short time I spent with them, I felt they were capable of learning, but needed support. Much of the deficiency in basic education skills is reinforced by a lack of professionals in the community, as these types of workers appear to visit and work for while and then leave, without training local personnel.

I encountered past students who had gone through the Ecuadorian educational system. Some of them were working in town and appeared to have very positive attitudes toward learning. Their problem appears to be a lack of minimal educational training (skills in language and writing, mathematics, critical thinking, ability to link cause and effect, and a basic understanding of natural, mechanical and administrative systems). They are very personable people with abilities and strengths in music, primary industries (farming, fishing, etc.), collaborating with their friends, working and communicating with tourists, love for the islands, and family values.

I was fortunate to meet some high school graduates who were presently studying at Ecuadorian Universities and doing research in the islands. Again I found them to have a wonderful attitude toward learning and their work, but sometimes hampered by their lack of education. They had a limited ability to write and organize reports, understand the scope and entirety of projects, design their own projects, organize and write their own theses, and utilize mathematical skills. On the other hand these students were very good at field work and data collection skills (once the surveys were designed and organized), they appeared at ease figuring our real-life solutions to

problems, were very amiable and had good collaboration skills. These students were good workers, but because of their education, had difficulty competing academically with off island students who had better language and science skills.

Findings

Even though environmental education is one of the pillars and objectives of the CDF, and there has been a continued effort to promote environmental education in the islands, the current state of Galápagos environmental education is not strong. The following is a list of programs implemented since 1999 as per CDF articles, and then their current status as observed by the researcher.

In 1999 education and training programs were implemented to increase the understanding of environmental processes in the Galápagos and generate lifestyles appropriate to conservation. These programs involved the formal educational system, but also developed activities in non-formal education for children, youths, and teachers (Lizana et al., 2000a; Lizana et al., 2000c; Support to formal education: from the 1999 Annual Report. retrieved Jan 5, 2007 from <http://www.darwinfoundation.org/Ourwork/social/s4.html>). Below are listed the CDF education programs implemented according as per the Lizana, et al. (2000c) article, and then observed as per the researcher's 2006 Colegio experience.

1. An agreement was made between the National Department of Professional Improvement (DINAMEP - Dirección Nacional de Mejoramiento Profesional) and the CDF;
 - a. This was the specific area and school where the researcher worked.
 - i. As far at the training of teachers in environmental education, there was evidence that it took place years ago and not since, and the effect was not strong and there was no current training while I was there;
 - ii. The elaboration of didactic material, and promotion of student CDRS volunteerships for Galapagueños was evident. Some of the teachers I worked with were not familiar with the didactic teachers manual, but the investigation was not complete.
 - iii. The design and execution of projects, and promotion of extracurricular activities: I was personally involved in this type

of work while in the school and observed other situations where CDF was involved in the community, especially at the Environmental Education Centers.

- iv. No CDF workshop attended by teachers from the Galápagos High School about "Environmental education as the main axis of the curriculum" were conducted while I was there, and the teachers I worked with did not know of any workshops, but they could have taken place years ago. It sounded like there was a good start, but this type of work needs to be done on a yearly basis (at least for a number of years) to keep the energy moving, networks developing and change happening in the schools system.
- v. CDRS does appear to train Galápagos students, who work as volunteers for 200 hours required for obtaining the high school degree, but more work could be done in this area to get more students involved.
- vi. The year 2000 appeared to be a real boost for the formal education system, with CDF advising on integrated educational reform: but I have not noticed any current effects of this work, or found any evaluations or research concerning the matters:
 1. The training of Galápagos teachers in environmental education
 2. Elaboration of didactic material, and promotion of student volunteerships in the CDRS
 3. Advice on the design and execution of projects, and promotion of extracurricular activities
 4. The first CDF workshop, attended by forty teachers from the Galápagos High School, with the theme "Environmental education as the main axis of the curriculum"
 5. The Galápagos students trained by the station, who work as volunteers in the different areas to fulfill the 200 hours required for obtaining the high school degree

The year 2000 was a huge year for change and work in the formal education, with CDF advising on the integrated educational reform, but for some reason nothing more has happened since.

- a. I am not sure how many other CDF volunteers have worked with the teachers and students at the school, and more research needs to be done, as I was not able to find an evaluation in the CDF library.
 - b. A number of good undergraduate or masters projects exist for university students studying education in the Galápagos (preferably Galapagueñian).
2. A first year basic education book was published ("Un montoncito de tierra en el mar"). The CDF distributed copies through the islands and conducted workshops for teachers on its didactic use. This was the first of a series of ten books, one per year, to cover topics on island nature and the environmental and social processes. These texts were to correspond to the methodology of integrated education, and support all subjects in the school curriculum;
- a. This is a wonderful idea, and I am not sure how many of these books were published, but I used "Galápagos y el Manejo de la Reserva Marina" © 2003 Parque Nacional Galápagos, and found it to be quite good. There were some complaints from the students that we always used the same book, so they would like to see some others. This situation needs more investigation, and I could find no evaluation of this program in the CDF library.
 - b. It would be a good undergraduate or masters project for a university student studying education in the Galápagos, and publications generated.
3. Work was supposed to be done on the evaluation and follow-up in all schools to establish the usefulness of the books and modes of application.
- a. Portions of this work have been done since 1999 and effects of it were observed in the community by this researcher. It was a wonderful idea to evaluate this work and then follow-up in all schools to establish the usefulness of the book and its mode of application, but I saw no such evaluations, reports or follow-ups in the CDF library.

- b. Some books were published, but I do not know if there is one for each year of the 10 school years stipulated, but more research needs to be done on this matter. The researcher found no project evaluation reports at the CDF library, and more investigation needs to be done concerning this very important matter of book publication and mode of application in the community.
 - c. It would be a good undergraduate or masters project, and publications could be generated.
 - 4. The CDF also published a manual on the production of didactic material, by Blas Luje, an agreement of cooperation between DINAMEP and CDF, for the development of curricular reform for the Galápagos. This manual was material for secondary school teacher workshops.
 - a. A copy of this manual on didactic material and lesson plans for teachers was found in the CDC office, and used by the researcher for his lesson plans. It is quite good, but needs to be updated and revised for use with a new comprehensive K-12 book series.
 - b. The manual was not found to be used in the formal school system, and teachers did not know of its existence, but the investigation was not thorough.
 - c. Workshops for teachers need to be done yearly, over a period of a number of years to build a core (critical mass) of teachers knowledgeable about the subject material, and other support mechanisms need to be initiated to keep these projects going, and this does not appear to have been done.
 - d. No project evaluations concerning this work were found in the CDF library.
 - e. It would be a good undergraduate or masters project, and publications could be generated.
 - 5. A workshop was held for teachers on the design and elaboration of projects.
 - a. Portions of the work appears to have been done since 1999 and effects of it were observed in the community, even though the workshops were carried out many years ago (workshops on the books and their

use in the classroom needs to be continued on a yearly basis because of teacher turnover, and a need to constantly be trained in techniques).

- b. No project evaluations concerning this work were found by the researcher in the CDF library.
 - c. Follow up and review of this would be a good undergraduate or masters project, and publications could be generated.
6. In cooperation with the tourist organizations the CDRS started the project "Teachers on Board." Traveling on board tourist boats, the teachers learn about Galápagos and then share their experiences with their students.
- a. The researcher observed use of this project, but none of the teachers I saw with seemed to be participating. The number of teachers contacted by the researcher was very small, so more participation could have been in process without my knowledge.
 - b. No project evaluations concerning this work were found by the researcher in the CDF library.
 - c. Follow up and review of this situation would be a good undergraduate or masters project for a university student, and publications could be generated.
7. A program, called "Young Scientists on Board," is carried out on San Cristóbal. This initiative is between the CDF and DINAMEP and has the participation of the Provincial Education Department.
- a. I am not familiar with this project since I did not work on San Cristóbal.
 - b. No project evaluations concerning this work were found in the CDF library.
 - c. Follow up and review of this situation would be a good undergraduate or masters project, and publications could be generated.
8. According to Lizana, et al. (2000b). Training directly to the community Formal Education: from the 1999 Annual Report there were to be:
- a. Workshops for teachers: I understand this did happen, but many years ago, and not on a continuing basis necessary for maximum effectiveness. This topic is all ready covered in the preceding section.
 - b. Classroom use of the book "Un montoncito de tierra en el mar": was

covered in section 2.

- c. Curriculum reform and environmental education as the main axis of the curriculum, on the three main inhabited islands: the researcher does not know about this work.
- d. Design and elaboration of projects, on the three main inhabited islands: the researcher does not know about this work.
- e. Elaboration of didactic material, two on each island: this project is briefly described in section 4, and the researcher does not know about this work.
- f. Strategic planning for 2000, in the Galápagos National High School, Santa Cruz: No work in this area was witnessed while the researcher was working at the high school.
- g. Advising teachers in the first basic year in Osvaldo Guayasamín and Galo Plaza schools. Project "Teachers on board": covered in section 2.
- h. Classes in the SEC-Education extension courses for adults to finish a high school degree; classes to be given by personnel of the CDRS - no evidence of this project was observed.
- i. The researcher does not know about the following work:
 - a. Talks of professional information, Loma Linda High School, Santa Cruz;
 - b. Course on values, given to upper level high school students, Santa Cruz: the researcher does not know about this work. 17 scholarships for university extension courses;
 - c. Workshops in Sustainable Agriculture;
 - d. Seminar on radio production, conservation, development, and communication;
 - e. Plastic arts with recycled material, on the three main inhabited islands;
- j. Courses offered by CDF: 1) Naturalist guides, organized by the GNPS. CDRS personnel gave talks on some scientific and technical topics; 2) English; 3) 40 courses in use of computers; 4) Organization of vocational field trips for children and youths; 5) Program "Young Scientists on Board," on San Cristóbal.

- i. Portions of this project are covered previously in section 7 (Young scientist on board).
 - ii. I did help with English training in the high school, as well as organizing vocational field trips, and there was a CDF university student who did provide computer training at the high school, while I was working there.
- f. No evaluations or reports concerning these projects (a-o) could be found in the CDF library.

9. Programs outlined by Ponce (1995), such as environmental education programs in 25 Galápagos schools, a conservation club (Club Renancer) for 8 to 12-year-old children, educational radio programs broadcast six days a week were not found to still be in effect in 2007.

10. Researcher note: The researcher commented on each of these projects individually. The outline presented a design of good programs to implement with the long-term objectives of involving the formal educational system, while also developing activities in non-formal education for children, youths, and teachers. For some reason, not much support was given to these projects, or the publication of corresponding texts integrating methodology, education, and support for subjects in the school curriculum. It appears that the initial phase was implemented, and then not followed up. I do not know the reason for this, since no evaluation reports, opinion papers, or research articles were found.

- a. More concerted research is necessary to determine the failures and how to improve local environmental education in the future.
- b. The researcher found no project evaluations, opinion papers, or research articles concerning this work in the CDF library, and research about this issue is necessary – it appears to be an internal problem in the organization and needs to be addressed for future projects.
- c. Follow up and review of this situation is a good post-graduate project for studying environmental education in the Galápagos, publications could be generated, and future policy influenced.

Recommendations

The following is a list of observations and suggestions by the author concerning

CDF continue working to improve environmental education in the Galápagos:

1. Environmental education workshops for teacher trainings for all grades, all schools, on all inhabited islands are necessary. A positive impact can be had from providing more teacher trainings in the community, providing training for student teachers who will work in the community (especially students who are from the Galápagos);
2. Improved library facilities and access for students and teachers to scientific information about the Galápagos Islands, especially species identification manuals and natural systems textbooks in Spanish. More teaching and learning support materials in formal Galapagueño school libraries;
3. Designate staff and post-graduate research students to review the environmental education projects initiated in 1999 and determine what was done with the project evaluations. Follow-up in schools to establish the usefulness of the projects, teacher workshops, and its mode of application. Currently, the environmental education department is severely understaffed (one person), so post-graduate and research personnel need to be brought on board to improve this situation, revitalize the environmental education department, develop strategy for implementation of environmental education in the formal education system and use materials generated by past programs and train CDF and community education personnel to continue implementation of environmental education in the Galápagos;
4. More technical support for the education system, such as computers, software and the associated training to use the new technology is necessary, along with training in repair and programming of this equipment;
5. Support of improvements to the public schools infrastructure, so they are a more learning friendly environment;
6. Vocational training for students, who need to be trained for jobs in the community, so more people from outside the Galápagos are not needed, and students can provide for their future families in a manner outside of the traditional primary industries (fishing, mining, etc.);
7. Promotion of a sustainability vision for the entire island community;
8. Implementation of an all island Galápagos environmental education teacher support group to continue trainings and maintain a local mentoring situation;

9. Incorporate Galapagueñian and Ecuadorian university education students in the Education Department at CDF, and conduct research as in other CDF departments such as Marine Biology, Botany, Invertebrates and Vertebrates;
10. More environmental education research to be carried out by CDF staff researchers (by local residents if possible, and/or Ecuadorians);
11. Research journal articles or environmental education project evaluations about the 1999 education projects, or other CDF environmental education projects;
12. Better funding for the Environmental Education Centers (Lizana, Davis-Merlen, Avcart, Bensted-Smith, Bustamante, Gardener. et al., 2000d; Luje, 1999), as they are the only real symbol of CDF in the Galapagueño community. They could be improved to better advance environmental education in the community;
13. More CDF volunteer support for the Colegio (CNG) to support environmental education and the teachers, and that needs to be researched for reasons and ways to improve community perception;
14. Increase the funding and staff at CDF working with environmental education. It is a huge job responsibility with tremendous scope. If environmental education is really a priority, then there needs to be a larger staff, better training for personnel and funding for projects, and more effort put into environmental education by CDF;
15. More environmental educational programs K-12 in the schools (oriented around field trips) to provide continuity in environmental education, even to students who are not studying the sciences; Build networks and support groups so the schools in the communities become cultural and environmental education centers for the entire community;
16. Implement a constructive and coordinated educational reform plan to be implemented though the existing educational system and by augmenting and improving existing facilities.
17. Build networks and support groups so the schools in the communities become cultural and environmental education centers for the entire community.

Conclusion

Problems continue to exist in the Galápagos formal education system. The children study the same subjects in elementary schools in the very unique and famous Galápagos islands as you would find in an Andean highland village. The curricula has been slightly modified since the 1990s, but continues to be designed for continental Ecuador. The schools are still not equipped with the human, physical plant, curricula design or other educational resources needed to attend to the needs of a rapidly growing population. The educational system has not substantially contributed to improving Galápagos island conservation or the inhabitants' quality of life, nor has training been provided for needed employment. The major problem continues with migration-driven population growth and immigrants having an extremely poor to nil understanding of conservation concepts and practices. A general attitude was observed ranging from 'subsisting at whatever cost' to 'making oneself rich within a few months'.

The Galápagos Islands have been undergoing rapid change, and this has increased human and ecological pressure has effects on the entire ecosystem. We can support a more sustainable Galápagos future by building strong educational institutions, collaborating with the community for a bio-diversity oriented vision and implementing environmental education projects for students and future leaders. The Special Law of Galápagos developed in 1998 presents a tremendous opportunity for achieving sustainability and conservation, and provides a good foundation by establishing a legal basis for educational reform. Supporting educational reform provides the basis for a sustainable future and helps ensure long-term conservation and bio-diversity. "It is urgent to find a meaningful way of designing a sustained environmental education program of sufficient depth and breadth. All sectors of the Galápagos population need a understanding of the role they play in the rational management of the natural resources of the islands" (Herrera-MacBryde, 1982, p. 4).

Many projects have been implemented over the years to develop environmental awareness, understanding and emphasize the relation of humans with their environment, but more needs to be done. Programs have implemented a few with environmental education programs in Galápagos schools, with workshops for teachers, scholarships for university students, courses about naturalist guides and sustainability, and the organization of vocational field trips for children and youths,

and much more remains to do. Also a system of textbooks and a manual on didactic material has been developed to support environmental education in the school curriculum, but few teachers are using them. The CDF has started many projects where teachers and Galapagueños learn about their islands and share these experiences with students, but these projects need to be continued into the present and pushed forward with much teacher and school support in the future.

These programs can sometimes be seen as counter to the existing island culture, since families are new to the island and want their children to study subjects in the school that were studied in their village in places on the continent, but because of ecological pressure now is the time to focus the public educational system on specially designed components relating to the islands biodiversity future. Teachers need curricula and educational training designed about the human, animal and plant life, and bio-diversity issues of the rapidly changing and demanding needs of Galapagueños. The educational system has not contributed to the quality of life of the populous, so they do not always see its value. The tourist market is growing dramatically, and the monetary worth of nature is becoming more and more apparent in the islands, so this is a good time for new ideas and implementation in the formal schools system, as in other similar areas such as the Great Barrier Reef. Many of the existing beliefs and serious problems are connected with the migration-driven population, but the students are young and gaining a sense of place where they live, and new attitudes are developing where these Galapagueños have an understanding of the importance of conservation concepts and practices.

While much work has been done concerning environmental education, it appears there has been very little continuity in these programs over the years, and little has been written or researched about their impacts. Well-targeted informal and formal education is required for long-term sustainability and conservation in the Galápagos.

Strategic investment in education is critical during the next five years to ensure Galápagos society adapts to social and cultural realities. This investment will also help develop the leadership needed to address growing economic and social pressures in the islands. This report supports the CDF Strategic Plan 2006-2016 and the implementation of educational change in Galápagos. Through these changes we will

ensure greater participation of young future leaders in conservation action. A more effective environmental education system in the Galápagos will generate:

- Residents with a deep understanding and caring of their unique surroundings and its bio-diversity;
- Lifelong learners with sustainable conservation-oriented economy skills; and
- A culture of collaboration, sustainability and conservation that pervades its society.

The idea is to learn from past mistakes and work in the system to promote change by: 1) supporting curricular reform by training local teachers and student-teachers, while implementing new sustainable futures programs in the formal school system; 2) encouraging a culture of participation and collaboration, while developing an island wide understanding and vision for a Galapagueño sustainable future; 3) institute and support student environment guardian clubs in all island schools, and develop teacher working groups and networks to promote in-service training and improve human resources for a conservation oriented culture of education and pedagogy; and 4) improve ecosystem understanding and sustainable island futures through information and formal education systems, as the local schools are developed as models for sustainable living. Thus, a sustainable conservation ethos is integrated into the Galápagos through environmental education curriculum in the schools (K-12), where the schools can serve as a model of sustainability in the community.

Even though environmental education has been a primary objective of the CDF, and there have been environmental education programs in effect since the 1960s, more programs need to be implemented and supported financially. My work with CDF and with the local Colegio leads me to believe that environmental education in the Galápagos is not in good shape, and it is important to re-examine what we have done and proceed forward with vigor and a sense of urgency. It is not a new conclusion since this problem has been seen as important for many years as (Herrera-MacBryde stated over 25 years ago that “the results obtained from my 1981 year of experiences strongly suggest the immediate need of incorporating environmental education into the whole curriculum ” (1982, p. 1).

My time in the Galápagos was very positive, and I was very impressed with the personnel in the educational institutions, and they need more training along support with curricula, textbooks, and technical equipment. I met a tremendous number of truly dedicated educators and students at various capacities in a number of agencies. My hope is that this work can help promote and support a sustainable future in the Galápagos through environmental education. The work of many dedicated people in the islands is important, as the flora and fauna need to be preserved for future generations. Much support is necessary for the formal education in the islands, but it is important that it is implemented in a constructive and supportive way by working and through local educators, and not in a way that is overpowering and foreign to the Galapagueñian people. Sí, se puede.

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