



Community Partnership for Ecotourism based on an Environmental Education Program for Sustainable Development in Sierra De Huautla, México

Asociación Comunitaria hacia Ecoturismo basada en un Programa de Educación Ambiental para Desarrollo Sostenible en Sierra de Huautla, México

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RESUMEN

La sensibilización acerca de la relevancia de la conservación de los recursos naturales es cada día más evidente. A nivel internacional existe una gran cantidad de programas encaminados a contribuir a la conservación de la biodiversidad. Sin embargo, estas acciones no han sido homogéneas en todos los ecosistemas del planeta. En el caso específico de México, algunos tipos de vegetación tropical biodiversos, como la Selva Baja caducifolia (SBC; distribuida desde el Sur de Sonora hasta Chiapas, y en parte central de México), hasta hace pocos años habían sido olvidados drásticamente. En los últimos años se ha puesto de manifiesto en diferentes ámbitos, que las universidades son un factor determinante para optimizar sus potenciales multidisciplinarios aplicados a un Área Natural Protegida. El trabajo de conservación no puede ser exitoso si no se hace un trabajo participativo con la comunidad, aspecto que el *Centro de Educación Ambiental e Investigación Sierra de Huautla* ha establecido en cada una de sus actividades de conservación. Este artículo describe la colaboración en el diseño e implementación del programa de educación ambiental y ecoturismo desarrollado en conjunto con la *Comunidad del Limón de Cuachichinola en Morelos*, México. Este proyecto ha generado materiales educativos que se han utilizado en espacios educativos formales y que serán distribuidos en el País.

Palabras clave: Ecoturismo, colaboración interinstitucional, materiales educativos, conservación.

ABSTRACT

The need for effective environmental education programs in the Latin American region has been made evident by deteriorating environmental conditions. The potential of ecotourism to contribute to environmental education programs with the community's partnership has increasingly been acknowledged in the recent years. This article illustrates the partnership between the community of Sierra de Huautla in south-central Mexico and Morelos State University and the community in utilizing the ecotourism opportunity as a means for achieving environmental education objectives. The partnership between an academic institution and the local community has yielded the development of an environmental education curriculum as well as teaching materials based on local knowledge that are now being incorporated into formal education curricula. This article recommends that a framework and indicators be developed to evaluate the outcomes so that the curriculum can be tested, revised and replicated in other communities of the region.

Key words: Ecotourism, inter-institutional collaboration, educational materials, conservation.

INTRODUCTION

The need of effective environmental education programs in the Latin American region have been made eminent by the deteriorating environmental conditions. It is now quite unfeasible to comprehend environmental educational approaches without a reference to the socioeconomic forces that influences the policy and practice of environmental protection¹. The export based economy that is dependent upon the production of commodities based on the natural resources and agricultural sector has resulted in an exacerbated loss of biodiversity and productivity. Drastic changes in the land usage, such as the conversion of tropical forest into cultivation lands as well as pasturelands have severely deteriorated the environmental systems². In response, environmental education programs and alternative ways to sustain the local economy have been suggested to address environmental challenges and promote coalitions with the local communities across the Latin American countries.

In this context, environmental education initiatives in countries like Mexico take on discourses that are somewhat different from those in the developed nations. These differences are primarily due to the local socioeconomic agendas underlying the need of place based environmental educational curricula³. Although environmental education has been accepted as an important agenda for more than half a century in this region, it is yet to be recognized as a main curricular subject in Mexico. That is where an ambitious program of Decade of Education for Sustainable Development (ESD) put forward by the United Nations casts rays of hope to revitalize environmental education as a means to achieve sustainable development at the community level. ESD has now been endorsed by most of the countries in this region including Mexico which have vowed to make the environmental education a central ethos of a holistic educational process. Moreover, several national and international agencies have renewed their concern and contribution towards environmental education programs with community's engagement particularly, after the inception of ESD.

The notion of ESD has also augmented the need of place based environmental education programs in a growing number of non formal education initiatives, especially, geared towards the sustainable development of the local community. Environmental education initiatives therefore face tough challenges of empowering the local communities in Mexico in securing community's roles in environmental stewardship as well as strengthening their socioeconomic conditions⁴. Moreover, academic institutions and the non governmental organizations have expressed considerable interest in experimenting with partnerships with the community in implementing environmental educational programs that can contribute to the sustainable development of the local community through activities like ecotourism.

- 1 APPLE, MW. (2001). "Comparing neoliberal projects ad inequality in education", *Journal of Comparative Education*, 37(4), pp. 409-423.
- 2 NOBLE, IR & DIRZO, R. (1997). "Forests as human-dominated ecosystems." *Science*, 277, pp. 522-525.
- 3 GAUDIANO, E. (2001). "Una nueva lectura a la historia de la educación ambiental", *Desarrollo e Meio Ambiente*, (3), pp. 141-158.
- 4 DORADO, O., ARIAS, D.M., ALONSO, G. & MALDONADO, B. (2002). "Educación ambiental para la biodiversidad en el trópico seco de México", *Tópicos en Educación Ambiental*, 4 (12), pp. 23-33.

ECOTOURSIM

The potential of ecotourism in educating the ways community members improve their livelihood opportunities and protect natural resources has increasingly been acknowledged in recent years⁵. Ecotourism is now considered one of the influential driving forces towards facilitating sustainable development of the local communities especially in the developing⁶. Concept of ecotourism appeared during the eighties and was described first by Ceballos-Lascurain⁷ as ‘traveling to relatively undisturbed or uncontaminated natural areas with the specific objective of studying, admiring, and enjoying the scenery and its wild plants and animals, as well as any existing cultural manifestations (both past and present) found in these areas’.

While the definition of ecotourism vary to a large extent⁸; the essence of ecotourism is well captured by the ‘International Ecotourism Society’ that concisely defines ecotourism as ‘responsible travel to natural areas that conserves the environment and sustains the well-being of local people’ (IES)⁹. The underlying notion of an ecotourism is that it involves educational process in an attempt to address the well-being of the local communities with some degree of their partnership. By taking to account the values and the culture of the host community, ecotourism could be one of the more sustainable uses of a natural area because it provides economic incentives to the community for their partnership role in conservation¹⁰. Sierra de Huautla in Morelos is one of the prime examples of such process where the community and the university have built a partnership to implement ecotourism based environmental education program.

SIERRA DE HUAUTLA

The State of Morelos is one of the smallest states of Mexico situated in the south-central region where Dry Tropical Deciduous Forest (DTDF) dominates the landscape. This particular forest vegetation is one of the most threatened in the country and constitutes a dominant tropical ecosystem of the neo-tropics spanning from Mexico’s northern Pacific coast to the state of Chiapas¹¹. This threatened ecosystem has its major extension in the Rio Balsas Basin, particularly located in the two states of Morelos and Puebla. However, in the state of Morelos, DTDF is conserved only in the region of Sierra de Huautla, located in the south-eastern area of the state. This area was decreed a protected area in 1993 by the University of the State of Morelos (UAEM) in close collaboration

- 5 NIESENBAUM, R.A. & GORKA B. (2001). “Community based eco-education: sound ecology and effective education,” *Journal of Environmental Education*, 33(1), pp. 12-16.
- 6 SCHEYVENS, R. (2000). “Promoting women’s empowerment through involvement in ecotourism: Experiences from the third world”, *Journal of Sustainable Tourism*, 8(3), pp. 232-249.
- 7 CEBALLOS-LASCURAIN, H. (1991). “Tourism, ecotourism and protected areas”, *Parks*, 2 (3), pp. 31-35.
- 8 DRUMM, A. & MOORE, A. (2002). *Ecotourism development- a manual for Conservation Planners and Managers. Volume 1: An introduction to ecotourism planning. The Nature Conservancy*. Virginia, USA.
- 9 STEM, CJ, LASSOLE, JP, LEE, DR & DESHLER, DJ (2003). “How Eco is Ecotourism? A Comparative Case Study of Ecotourism in Costa Rica”, *Journal of Sustainable Tourism*, 11(4), pp. 322-347.
- 9 IES (2006). *International Ecotourism Society*. (URL: www.ecotourism.org. Accessed on 05/2006).
- 10 NIESENBAUM, R.A. & GORKA B. (2001). *Op. cit.*
- 11 NOBLE, I.R. & DIRZO, R. (1997). *Op. cit.*

with the Rancho Santa Ana Botanic Garden of Claremont, USA. Moreover, the Government of Mexico decided to decree Sierra de Huautla as one of the Mexico's Biosphere Reserves in 1999. The management of the Huautla Sierra is under the responsibility of a research center belonging to a public state university; The Center for Environmental Education and Research of Sierra de Huautla which is responsible for implementing non formal education curriculum in the local community.

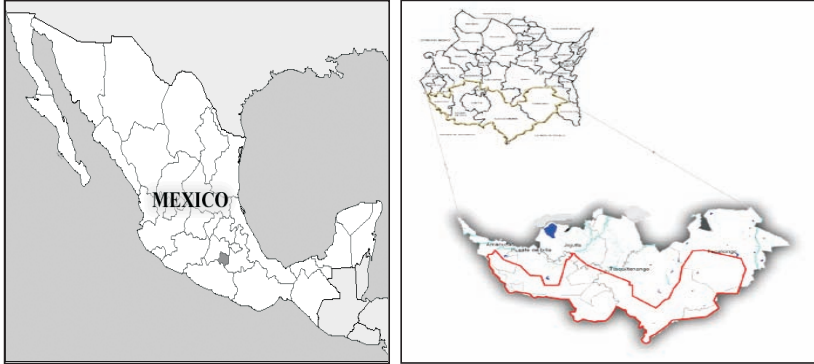


Figure 1. Sierra de Huautla location in México (CONABIO, 2002).

NON FORMAL EDUCATION CURRICULUM

The term “non formal education” refers to a theoretical and practical framework encompassing activities that are implemented out of the traditional school setting and are usually developed by the non governmental organizations¹². She also suggested that non formal education can be characterized as practices that integrate: a) an exploration of different images of time and place; b) an idea of teaching and learning as a process in which knowledge is negotiated; c) dialogue and discourse in teaching and learning process, and d) play as a way of expanding the notion of what is consider within the bounds of plausible reality. This type of education promotes a different role for learners as active agents in the process of education. Usually, non formal or informal education strategies are used as resources for formal education settings and can be practical approach when partnership with the local community is at stake.

In the current education settings, local knowledge is consider primitive, simple, static or even a “not knowledge” as it is depicted as backwards because of the traditional mind-set that formal school settings and curriculum are better¹³. Curricular design theorists have contested the structure of curriculum in the current formal educational settings. William Pinar, a contemporary North American curriculum theorist recognized the crisis of

12 SILBERMAN, D. (2003). *Toward the characterization of non-formal pedagogy*. *American Educational Research Association* (Retrieved November, 24, 2006, form ERIC Document Reproduction Service nº. ED477508).

13 BALL, J. (2004). “As if indigenous knowledge and communities mattered”, *American Indian Quarterly*, 28 (3).

traditional education systems as being pragmatic and business oriented¹⁴. He referred this pragmatism of objectified outcomes, as “accountability,” and “standards” that rules the classroom atmosphere with individualized and skill-based instructional programs making schools not pertinent with community and local settings. Pinar’s suggested that educational objective is to situate learning’s in human society and not to study subjects in “isolation” providing a prominent school of thought to understand curriculum in the way it functions within politically, racially and gender-wise specific place instead of the non-contextual setting¹⁵. Pinar reconceptualized the curriculum theory as an integral part of the educational process inferring that curriculum design has to shift form those areas of social engineering and the business model to a project that understands curriculum from a different perspective such as cultural studies.

This shift from the emphasis of teaching centred model into cultural studies can address the question of ‘what knowledge is of most worth?’¹⁶. From his point of view, this question must be asked constantly and only by answering it curriculum could be changed to suit specific projects, people, nations and historic moments to overcome current crisis of education curriculum: curriculum as *currere*¹⁷. This term, refers to education as the running of a course, or a course of study. The emphasis is on the role of education as a never ending process which has to recover the past, bring it to present and head out into the future. *Currere* makes curriculum an active process, and as such it does not separate curriculum from pedagogy or learning, or either from the historical context of the educational process of teaching where curriculum is understood as the place where teachers, students and culture engage in a “complicated conversation”.

Pinar and other theorists¹⁸ also claimed that universities might participate supportively in the creation of smaller, less anonymous and possibly even theme based curriculum. Kathleen Hogan considered that existing curriculum contents should be completely redesigned to utilize community networks to support student development as well as achievement¹⁹. Such argument is pertinent to the local knowledge based curriculum because it offers an alternative to transform current school curriculum into an ongoing conversation that can incorporate local knowledge, societal values and historical context. Thus, there is an eminent need to mobilize community resources to support local educational enterprises in making educational learning experiences more relevant and connected to young people’s everyday lives and future aspirations. A basic premise is that the abstract, decontextualized knowledge typically gained in the formal school settings does not effectively prepare students to neither apply knowledge in the complex, real-world contexts nor does it allow them to build identities as competent participants in communities of practice beyond the

14 PINAR, WF. (2004). *What’s curriculum theory?* NJ, Lawrence Erlbaum Associates.

15 *Ibidem*.

16 *Ibid.*, p. 17.

17 *Ibidem*.

18 BALL, J. (2004). *Op. cit.* Hogan, K (2002). "Pitfalls of community -based learning: how power dynamics limit adolescents’ trajectories of growth and participation". *Teachers College Record*. 104 (3), pp. 586–624.

19 *Ibidem*.

classroom²⁰. Such theoretical and pragmatic characteristics of non formal education curriculum were integrated into the design of environmental education curriculum at El Limon.

“EL LIMON” ENVIRONMENTAL EDUCATION PROJECT

One of the key characteristics of Sierra de Huautla Biosphere reserve is that it comprises a total of thirty one communities across the six counties with a total of 20,682 inhabitants²¹. Unlike several conservation initiatives in Latin America held by Non Governmental Organizations, the fact that the management of this reserve is under a public university system allows different approaches to the environmental education program to be carried out with an active engagement of the community. Given the fact that local communities are willing to engage in the conservation projects and that the university is recognized as source of knowledge by the communities makes undertaking of ecotourism based innovative educational education approaches possible. It is particularly important in the context of small communities where formal school curriculum promotes educational attributes decided by a dominant group of policymakers based on their own assumptions and values under ‘one best way’ approach²².

Success of non formal education curriculum in this biosphere reserve therefore depends in a social context where ecotourism can establish itself as a viable livelihood options which essentially contributes to the biodiversity conservation and at the same time offers an alternative economic opportunities for the local communities. The potential of ecotourism in facilitating sustainable development initiatives depends upon minimal access facilities to provide a ground for an implementation of an environmental educational program²³. Thus, in 2001, “El Limon” community located in the eastern area of Sierra de Huautla started an ecotourism project with the financial support of the university and the non governmental organizations such as The National Commission for the Knowledge and Use of Biodiversity, (CONABIO) and The Mexican fund for Natural Conservation (FMCN). The aim of this ecotourism based environmental education approach is to promote the involvement of the local community towards conservation of a threatened forest ecosystem and benefiting the local communities of the area²⁴.

Ecotourism based environmental education activities implemented in this community have resulted in the development of place non formal education based education curriculum. This curriculum provides a framework for the environmental education activities held at the El Limon ecotourism project amongst the visitors. Place based environmental education in general describes an instructional approach that help students learn from their immediate surroundings²⁵. The foundation of this type of education is actually not based on

20 *Ibidem*.

21 DORADO, O., ARIAS, D.M., ALONSO, G. & MALDONADO, B. (2002). *Op. cit*.

22 ROGOFF, B. (2003). *The cultural nature of Human Development*. New York, Oxford University Press, p. 347.

23 PÉREZ, M. (1999). *La guía del ecoturismo*. Madrid, España, Mundi Prensa.

24 *Ibidem*.

25 KNAPP, EC. (2005). “The ‘I-Thou’ Relationship, Place based education and Aldo Leopold.” *Journal of Experiential Education*, 27(3), pp. 277-285.

the transmission of information but on providing meaningful contextual experiences in both natural and constructed environments that complement and expand classroom instruction²⁶. Place based educational concept has continuously evolved and contemporary studies provide basic characteristics that this notion incorporates in milieu of the type of activities that are common representatives of place based education settings; a) cultural studies, b) nature studies, c) problem solving, d) internship opportunities, e) Induction to the community process²⁷.

These main characteristics of place based education require a multidisciplinary approach that strongly focuses on the experiential learning's. Place based education therefore encompass the discussion and identification of ecological, economic, and multicultural dimensions within a specific environmental issue²⁸. Implications of this educational approach are very rich as the learning forms an experience that results in a direct involvement with specific issues to solve the local environmental problems as well as to make learners active characters in the educational process.

By using place based education in El Limon, many opportunities to understand environmental problems and to engage learners in specific deliberative process within their communities where the experiential learning can be transformed through concrete actions have been created²⁹. Current evaluations of the place based education indicate strong promises of student learning and community engagement so far. Students that are engaged in the real world learning are therefore more likely to succeed than those who learn through equivalent material from more abstract textbooks³⁰. A program evaluation conducted by researchers at the Harvard Graduate School of Education for the Rural Trust reported that students who come to know their local communities and communities develop a more clear sense of responsibility and sense of belonging. The evaluation of non formal education curriculum concludes that as schools and communities work together to design curricular goals and strategies, student's academic achievement improves, their interest in their community increases, teachers are more satisfied with their profession, and community members are more connected to the schools and to students³¹.

This educational approach has been used in El Limon in a wide range of forms which has been adapted to address local issues. Consequently, place based education have helped overcome the disjuncture between school and children's lives in El Limon to a certain extent. Younger generations of El Limon community often lack knowledge about their culture of origin or their heritage language as well as their identities as members of their own community. Therefore curriculum has been planned in order to recognize and record the local knowledge that needs to be preserved. The lives of local communities are closely interwoven with their environment, and are dependent upon their immediate resources. There-

26 SMITH, GA. (2002). "Place-based education: Learning to be where we are", *Phi Delta Kappan*, 83(8), pp. 584-594.

27 *Ibidem*.

28 KNAPP, EC. (2005). *Op., cit.*

29 POWERS, AL. (2004). "An evaluation of four place-based education programs", *Journal of Environmental Education*, 35(4), pp. 17-30.

30 *Ibidem*.

31 *Ibidem*.

fore this particular non formal educational curriculum incorporated following key components into the ecotourism oriented environmental education programs:

1. Local biodiversity knowledge.
2. Traditional agricultural practices.
3. Traditional stories and legends.
4. Community organization.

In order for the environmental education to have a positive and potentially transformative effect towards sustainable development of the community, the curriculum itself must be compatible with the shared view of the community itself. Since the majority of the ecotourists or visitors that participate in the environmental education programs are the secondary and high school students from the surroundings public schools, the environmental education project has taken into considerations of this place based factors in incorporating them into the curricula. As a result, local community has shown continuous interest in making this partnership sustainable in the long run. This environmental education project has therefore also been perceived as an effective tool for educating about the traditional knowledge as a part of the learning activities with the visiting students as well as the community resulting in contribution to the sustainable development of the community.

DISCUSSION

Sierra de Huautla community base program demonstrate the value of an approach to strengthen community capacity into education partnerships that encourage community participation and invites a multiple perspective into the design of a non formal curriculum program that emphasizes local knowledge as relevant education subject. Participation and practice that encompasses a broader social community can consolidate communities of learners who are encourage to explore and evaluate sources of knowledge with respect to the potential utility in local contexts. Local communities can experience a high degree of agency in determining what can be relevant learning revitalizing local traditions and local culture. The partnership between an academic institution and the local community has yielded an effective ecotourism based environmental education program as well as the development of teaching materials based on the local knowledge. While environmental education initiatives has no doubt been an example of successful partnership with the community, effectiveness of incorporation into the formal education curricula is yet to be systematically evaluated. In order for ecotourism based environmental education programs to strengthen partnership with the community and have tangible outcomes, it is recommended that a framework and indicators be developed to evaluate the outcomes in order for the curriculum to be revised and replicated in other communities.