RESEARCH NOTE

An exploration of a mini-guide program: training local children in sea turtle conservation and ecotourism in Brazil.

Fernanda de Vasconcellos Pegas¹

Alexandra Coghlan^{1*}

Valeria Rocha².

¹International Centre for Ecotourism Research

Griffith University, Gold Coast, Australia

²Coordinator of the Environmental Education and Social Inclusion Program of TAMAR in Praia do Forte, Brazil.

* Corresponding Author

Email: a.coghlan@griffith.edu.au

Telephone: +61 (0)7 55527368

Fax: +61 (0)7 55528895

To cite this article: Fernanda Pegas , Alexandra Coghlan & Valeria Rocha (2012): An exploration of a mini-guide programme: Training local children in sea turtle conservation and ecotourism in Brazil, Journal of Ecotourism, 11:1, 48-55

RESEARCH NOTE

An exploration of a mini-guide program: training local children in sea turtle conservation and ecotourism in Brazil.

Abstract:

This study explores the mini-guide program delivered by the Brazilian Sea Turtle Conservation Program (TAMAR) in the fishing community of Praia do Forte, Bahia, Brazil. Established in 1995, the program lasts one year, training local children, aged 10 to 14 years old, in guiding skills, learn about sea turtles and marine ecosystems. The children also receive a monthly stipend. In-depth semi-structured interviews with 77 local community members were conducted during nine months of ethnographic research to assess perceptions about the program. The interviews also included seven former students who provide an evaluation of the program from their perspective. The results indicate community-wide support for the program, with locals focusing not only greater environmental awareness of the children (or Tamarzinhos, as they are called), but on the personal development as result of participation. Former Tamarzinhos themselves agree with this assessment, and demonstrate knowledge gain and positive behaviour about conservation of marine species, new aspirations towards higher education, greater training and skills acquisition. As such, long-term environmental programs such as the mini-guide program at TAMAR can promote socioeconomic and environmental changes that last throughout their youth and adult lives.

Key words: TAMAR; Brazil; environmental education; Praia do Forte; sustainable tourism

1. Introduction

This study examines perceptions of a ‘mini-guide’ program designed to training local children in sea turtle conservation and ecotourism in Brazil. Ecotourism has been presented as one aspect of a broader strategy to achieve biodiversity conservation (c.f. Ceballos-Lascurain, 1996; Buckley, 1994; Fennell, 1999; Gössling, 1999; Stem,

Lassoie, Lee & Deshler, 2003). The potential to simultaneously address the needs of local communities and biodiversity makes ecotourism the chosen conservation approach for many endangered species conservation programs, such as sea turtles for example, especially where resource degradation, illegal harvesting, and other human activities are the main threats to sea turtle survival (Godfrey & Drif, 2001; Jacobson & Robles, 1992; Pegas & Stronza, 2010; Tisdell & Wilson, 2002; Vieitas & Marcovaldi, 1997).

Ecotourism ventures can also provide a range of socio-economic, training and educational benefits to host communities (Buckley 2003, 2009; Donahoe & Needham, 2006; Stronza, 2007; TIES, 2008; Weaver & Lawton, 2007). Kimmel (1999) and others (c.f. Kremezi-Margaritouli, 1992; Petro & Fletcher, 2007; Wilson & Tisdell, 2001) note that using environmental education as part of ecotourism can enhance local understanding about and concern for biodiversity conservation and minimize potential negative impacts associated with ecotourism, like the weakening of the local culture and local social structures (Brandon, 1996; Honey, 1999; McLaren, 1998). Finally, Vieitas, Lopez and Marcovaldi (1999) argue that environmental education and community participation are often components of conservation programs that have been most effective at achieving positive environmental outcomes.

1.1. TAMAR's role within the community

In 1980, the federal government created the Brazilian Sea Turtle Conservation Program (TAMAR) with the mission to protect sea turtles in Brazil. TAMAR operates in nine states, monitors 1,100 km of coastline, encourages conservation via 23 research stations, runs visitor centers and promotes ecotourism in 13 communities that have a strong tourism component (TAMAR, 2011a). One of these communities is Praia do Forte, in Bahia. Once a small and isolated community, Praia do Forte is now one of Brazil's most popular tourism destinations. Despite this popularity, many local families live in economic hardship and education opportunities for the youth are limited (Pegas & Stronza, 2010).

Local beaches are prime nesting sites for four species of endangered marine turtles: *Caretta caretta* (loggerhead), *Eretmochelys imbricata* (hawksbill), *Chelonia mydas* (green), *Lepidochelys olivacea* (olive ridley) (TAMAR, 2011a). Harvesting, though illegal, occurred on a regular basis by the local community and posed the

greatest threat to turtle survival in the region (Marcovaldi & Marcovaldi, 1999). In 1982, TAMAR opened a research station in the village and implemented conservation strategies including environmental education, economic benefits to the community, and enforcement of protection laws. Through these strategies TAMAR aimed to control local consumption of, and gain support for sea turtle conservation by changing local values and behaviour regarding sea turtles (Vieitas *et al.*, 1999). In particular, TAMAR's environmental education programs seek to enhance local understanding about sea turtles and sea turtle conservation. Studies conducted in Praia do Forte show signs of a decrease in sea turtle harvesting activities since early 1980s and continued support for TAMAR's ecotourism initiative (Marcovaldi & Marcovaldi, 1999; Marcovaldi *et al.*, 2007; Pegas & Stronza, 2010; Santos *et al.*, 2000).

Over the years, TAMAR has developed specific educational courses, programs and activities that target the local youth and children of Praia do Forte and adjacent communities. One of these programs is the mini-guide program (now called 'Tamarzinho Program'), TAMAR's most popular and longest-running environmental education program. As cases of providing this type of training and education to children are rare and have received little attention in the scholarly literature, the present study represents the first attempt to showcase the outcomes of such a program. The purpose of the study is to describe the mini-guide program, examine the community perceptions of the program, evaluate its effects on the lives of past participants, and present the context which allowed the program to achieve its success. In order to do so, a case study methodology is adopted and qualitative data are presented.

Figure 1. A TAMAR mini-guide in Praia do Forte, Brazil (photo courtesy of F. Pegas).

2. Methods

For this exploratory purpose of this study, we have adopted a qualitative, interpretivist approach and used a case study methodology. We use Flyvberg's (2006) review of the value of case studies to suggest that TAMAR's work represents a case study of prototypical value. In this sense, TAMAR's mini-guide program can serve as reference point to identify if, how and why an unusual/innovative program to involve children in ecotourism training was successful. Furthermore, we base our methods on Van Wynsberghe and Khan (2007) assessment of a prototypical case study. These authors suggest the most appropriate ways to present a case study with prototypical features including (i) presenting an intensive and in-depth focus on the specific unit of analysis, (ii) providing contextual detail, (iii) focussing on natural settings that does not reduce the context to single cause and effect relationships, (iv) ensuring boundedness (i.e. specific temporal and spatial boundary), (v) offering the possibility of generating working hypotheses and describing lessons learned, (vi) using multiple data sources and finally, (vii) providing extendability, so that the context and lessons learned may resonate with the reader and prompt further discussion.

In addition to providing detailed contextual information about the case study itself, data were also collected during nine months of ethnographic research using in-

depth semi-structured interviews with local residents (in accordance with Van Wynsberghe & Khan, 2007 sixth point). Respondents were asked their perceptions about TAMAR, the mini-guide program, and sea turtles and their knowledge about sea turtle threats, protection laws, and conservation strategies. The interviews were carried out by the first author over three separate periods; (i) a scoping phase between May and August 2006 to get to know the community and understand some of the issues and dynamics within the community, (ii) interviews with 77 residents between September and December 2007 and (iii) follow up interviews between May and August 2008 with some of the families interviewed in 2006 and in 2007 to assess their perceptions about the changes that occurred in the village, and within their households, since the beginning of the study in May 2006.

For ethical reasons interviews did not include any children participating in the mini-guide program or former students who were younger than 18 years of age. However, seven former students, ages 21 to 32, were interviewed to evaluate the outcomes of participating in the program. Each interview lasted about 90 minutes. Where possible, interviews were tape recorded. Open-ended questions were transcribed and translated by the first author and pseudonyms have been used throughout the study to protect respondents' identity. Some socio-demographic information (e.g., birth place, level of education, employment history, sources of income, association with TAMAR) was also gathered and where relevant, reported in the findings.

3. Findings

3.1. The case study context:

Created in 1995, the Training Program for the Establishment of Mini Ecological Guides (*'Programa de Treinamento para Formação de Guias Ecológicos Mirins'*) is an education program that provides training skills, a monthly stipend, on-site meals, and environmental education to children from Praia do Forte and adjacent communities (Vieitas *et al.*, 1999; TAMAR, 2011b). The name of this program has

recently changed to ‘Tamarzinho Program’ to avoid the association of the term ‘guide’ with employment, more specifically with ‘child employment’ – which is illegal in Brazil. For the purpose of this paper and to maintain the expressions used by the community (i.e., mini-guide program) during the interview process, we use the original name and refer to the children engaged in the program as ‘mini-guides’. The year-long program trains local children aged 10 to 14 in basic sea turtle biology and marine conservation and requires that these children maintain a good academic standing. This program does not replace the official school education system rather, it is provided as a complementary and free-of-charge educational alternative to the local children.

The program, which started in 1995 as a short-term summer course with 14 applicants (Vieitas *et al.*, 1999), has increased both in popularity and in the scope of activities offered. The selection process starts with the children’s application to the program, which is limited to 150 local children. Out of the 150 children, 40 are selected to participate at the first phase. The fifteen children who demonstrate the best communication skills, knowledge of sea turtles and perform the best work at TAMAR are selected to participate in a variety of activities at the visitor centre, including providing guided visits to tourists who come to see the turtles and assisting the research team of TAMAR during hatchling release activities (TAMAR, 2011). These children become the mini-guides for that year. Upon completing the program, the children are expected to be knowledgeable about the basic aspects of sea turtle biology, sea turtle and marine conservation, and guiding skills, speech, and ways to interact with the visitors (Vieitas *et al.*, 1999). Between 1995 and 2009, approximately 2,100 children have learned about sea turtles and their conservation, and about local marine resources, about 500 children completed the first phase of the program, and 162 became mini-guides (Tamarzinho Program Assistant, personal communication, 22 February 2009).

3.2. Community perceptions of the mini-guide program.

Using open-ended questions, 77 residents were asked their perceptions about the mini-guide program. All respondents perceive this program as a unique opportunity for the local children to learn about the environment and about conservation. ‘It is good to have an environmental awareness view. The mini-guide

program gives them guidance, structure. It is a very good program. They leave the program with a better view of conservation’ said one of the former mini-guides, working for TAMAR at the time. Another resident said that: ‘the program opens the minds of the children and enhances the environment awareness of the children. This is good.’ One of the former students of the mini-guide program said: ‘Since I worked in the program I know these children can have opportunity to grow if they participate in the program.’ These perceptions were provided by residents with different ties with TAMAR and with the community.

Residents also support the program because they believe it provides the students with skills they will use in their professional careers: ‘They would grow up learning about how to protect things and work with conservation, which is good for them,’ said a local man who sells handcrafts to the tourists. Another resident who works as a gardener in one of the luxury secondary homes stated that: ‘I and everyone else here think that TAMAR is very good. Beside the protection efforts, TAMAR also helps the children through the mini-guide program. They help the children do something. When I talk to the people back home about what TAMAR does for the children, nobody believes me.’ A fisherman’s daughter and former mini-guide finds that: ‘The children leave the program completely different. They carry with them great discipline. I see the difference from when they started to when they leave. They have a greater understanding about our environment and about TAMAR.’ All respondents had similar views about the mini-guide program. This shows that environmental education programs can provide more than an understanding about the environment, but also enhance self-esteem and provide skills that may benefit students in activities that go beyond their engagement period in the program.

3.3.The former mini-guides assessment of the program.

The seven former students, four women and three men, interviewed for this study are descendants of the local fishing families, and had family members working for TAMAR. One of the earliest mini-guides said, ‘Work for TAMAR is like a family tradition’. One worked as a gardener, three worked in the food and beverage retail business, and three (two women and one man) worked for TAMAR. At TAMAR, their main responsibilities were interpretation and environmental education to the tourists at the Visitor Center. The women have been engaged with TAMAR’s

educational programs for about 12 years while the man, the youngest of the respondents, for five years.

Open-ended questions were used to assess respondents' knowledge about threats and existent laws to protect sea turtles. The former mini-guides were asked: 'Are there threats to sea turtles?' and 'Are there laws to protect sea turtles?' If they said 'yes', they were asked to explain and give examples. Overall, the former students had a good understanding of sea turtles, sea turtle conservation, and threats to sea turtle survival. By understanding, we mean being knowledgeable about nesting patterns (i.e., location where turtles hatch), historic (i.e., harvesting for food) as well as contemporary threats to sea turtle survival in the area (i.e., bycatch in fishing gear, pollution, harvesting), and conservation efforts. For example, when asked whether the community had norms about sea turtles, one respondent said 'yes' and explained that if a turtle is stranded, it is taken 'To TAMAR and we release them if they get caught in the nets. We used to eat them in the past. Now there is awareness'. With regards to threats, three respondents said harvesting continues but less frequent than in the past 'Because of the protection and there is greater awareness now'.

When asked about the benefits provided the mini-guide program, the former students said they gained skills and discipline, which in turn enhanced their self-esteem. Comments such as 'Being a guide helped with my job because it gave me the needed knowledge to get a decent job' and 'We learn things in the program that helps us be more organized, learn more about the environment, and how to work with the tourist' demonstrate greater self-esteem regarding their skills and potential achievements in this popular tourism destination. For instance, with regards to tourism, one former mini-guide said he 'learned a lot of things because of the tourist. I have learned English. If it wasn't for the tourist I would not have learned what I know now'. These skills provide an added value to their overall knowledge, particularly with a growing number of international tourists visiting the village. Additionally, the three TAMAR workers said they would like to obtain a college degree in the field of environmental conservation. Though this desire may not be the solely based on enrolment at the program, they said that engagement with TAMAR's research staff and involvement in a diversity of conservation-related activities provided them with a venue to learn. This venue gave them the possibility and aspiration to become the next biologists, veterinarians, and environmental lawyers working for the conservation cause in Praia do Forte.

4. Discussion and further research:

A clear finding from this study was that all respondents in this study supported TAMAR's mini-guide program. At a broader community-level, the mini-guide program was received positively. Indeed, many respondents from the community believe the only opportunities for the local children to gain knowledge about the local natural environment and skills they will need during their professional lives. They appear to have developed strong ties with TAMAR, and appreciate the opportunities that the organisation offers the community's children through the mini-guides program. There is a sense that 500 children who have participated in the program will be 500 adults who, perhaps, have greater skills to use in their professional careers, have greater self-esteem about their capabilities and cultural roots, and have greater understanding about sea turtles and marine conservation as a result of being engaged in the program. There is also a chance that at least a percentage of these children will take home some traditional ecological knowledge, thereby maintaining the community's historical roots with the ocean.

Though only seven former mini-guides were interviewed, those who worked for TAMAR confirmed that being part of program was a vital factor in their decision to continue working in sea turtle conservation and at TAMAR. Consequently, TAMAR educational programs are long-term 'investments', where the results take place over a prolonged period of time rather than as a one-time experience. Furthermore, their desire to acquire a college degree is an indicator that the skills and discipline they acquire during the program may have helped them aspire to higher goals. It may be said that this desire is, at least, a positive sign that the efforts of TAMAR to provide the local children with resources for them to succeed in their careers is working. Therefore, though not a conservation strategy that generates immediate results at the economic level, environmental education programs may promote socioeconomic changes in the longer-term and throughout the lives of these children. In the longer term, greater skills and higher education can provide the skills required to work at a higher paying job position, which in turn will benefit the overall income of the household. Future research is needed to ascertain the relationship between immersion in the program and the longer term effect on vocational outcomes.

Finally, Praia do Forte is a community where external factors, such as limited vocational training and education opportunities, economic hardship, high cost of attending school, distance from the educational centre, are not controllable by TAMAR or by the community. Therefore, programs such as TAMAR's mini-guides can reduce the existing educational and economic gap and provide the local youth with skills and learning opportunities otherwise unavailable to those with limited economic means. Accordingly, it is important to remember that TAMAR is only one component of the overall educational experiences these children and youth have. TAMAR is not the only provider or responsible agency over the quality of educational opportunities available to the community. In Brazil the state has the responsibility to provide its people with the educational services and resources people need to eventually achieve higher education goals and skills. TAMAR's efforts, though a good addition to the learning opportunities for these children, are unlikely able to compensate for the limited educational opportunities available to the children and the absence of qualifying workshops for the adults in the community.

Conclusion

In summary, environmental education at TAMAR is a conservation strategy widely supported by this community and by the former students. The former students who were interviewed in this study showed consistency in their knowledge about sea turtle conservation and sea turtles and consistency regarding changes to personal aspiration and enhancement of self-esteem. Three respondents gave continuity to the mini-guide program by working at TAMAR as environmental educators.

This study provides a glimpse of the lives of these former students and about this program. Further research should assess whether knowledge and perceptions about sea turtles and conservation vary among children whose families are non-fishing families, have no or little ties with TAMAR, and have moved to the village more recently as result of tourism development. In closing, this research supports the claim that environmental education, through innovative approaches such as this one, can assist conservation programs gain local support for conservation through the effects of its programs on individuals and community development perspectives.

Acknowledgement

This study was partially funded by the National Science Foundation Cultural Anthropology Program (#0724347), the PADI Foundation, the Viillo and Gene Phillips Scholarships, and funding from the Graduate Student Research Grant and The Centre for Socioeconomic Research and Education at Texas A&M University. The first author thanks the TAMAR Project and Foundation Pró-TAMAR and their staff for their support and for providing a welcoming research environment throughout the course of the study. She acknowledges the Fundação Garcia D'Ávila for sharing their archival data about the village. She is also grateful to the families of Praia do Forte for their generosity and for sharing their life histories about their beautiful community.

References:

Brandon, K. (1996). *Ecotourism and Conservation*. Washington, D.C: World Bank.

Buckley, R. (1994). A Framework for Ecotourism. *Annals of Tourism Research*, 21(3), 661-669.

Ceballos-Lascurain, H. (1996). *Tourism, Ecotourism, and Protected Areas*. Gland, Switzerland: IUCN (World Conservation Union).

Donahoe, H. & Needham, R. (2006). Ecotourism: The Evolving Contemporary Definition. *Journal of Ecotourism* 5(3), 192-210.

Fennell, D. (1999). *Ecotourism: An Introduction*. New York: Routledge.

Godfrey, M. & Drif, O. (2001). Developing sea turtle ecotourism in French Guiana; Perils and practicalities. *Marine Turtle Newsletter*, 91, 1-4.

Gössling, S. (1999). Ecotourism: a means to safeguard biodiversity and ecosystem functions? *Ecological Economics*, 29(2), 303-320.

Honey, M. (1999). *Ecotourism and Sustainable Development*. Washington D.C.: Island Press.

Jacobson, S. & Robles, R. (1992). Ecotourism, sustainable development, and conservation education - development of a tour guide training-program in Tortuguero, Costa Rica. *Environmental Management*, 16(6), 701-713.

- Kimmel, J.R. (1999). Ecotourism as environmental learning. *The Journal of Environmental Education*, 30(2), 40.
- Kremezi-Margaritouli, A. & Margaritouli, A. (1992). Sea turtles stimulate environmental education in Greece. *Marine Turtle Newsletter*, 21-22.
- Marcovaldi, M.A. & Marcovaldi, G. (1999). Marine Turtles of Brazil: the history and structure of Projecto TAMAR-IBAMA. *Biological Conservation*, 91, 35-41.
- Marcovaldi, M. A., G. Lopez, L., Soares, A. Santos, Bellini, C. & Barata, P.C.R. (2007). Fifteen Years of Hawksbill Sea Turtle (*Eretmochelys imbricata*) Nesting in Northern Brazil. *Chelonian Conservation and Biology*, 6(2), 223-228.
- McLaren, D. (1998). *Rethinking Tourism and Ecotravel*. West Hartford: Kumarian Press.
- Pegas, F. & Stronza, A. (2010). Ecotourism and Sea Turtle Harvesting in a Fishing Village of Bahia, Brazil. *Conservation and Society*, 8(1), 15-25.
- Pegas, F. & Stronza, A. (2008) Ecotourism equations: Do economic benefits equal conservation? In Stronza, A. and Durham, W. (Eds.), *Ecotourism and Conservation in the Americas* (pp. 163-176). Oxfordshire, UK: CAB International.
- Petro, G. & Fletcher, M. (2007). *One small bag for tourists brings big benefit*. SWOT Report II. Pp. 38.
- Santos, A.S., Marcovaldi, M. A., & Godfrey, M. H. (2000). Update on the Nesting Population of Loggerhead Sea Turtles in Praia do Forte, Bahia, Brazil. *Marine Turtle Newsletter*, July, p. 8-11.
- Stem, C., Lassoie, J., Lee, D. & Deshler, D. (2003). How 'eco' is ecotourism? A comparative case study of ecotourism in Costa Rica. *Journal of Sustainable Tourism*, 11(4), 322-346.

Stronza, A. (2007). The economic promise of ecotourism for conservation. *Journal of Ecotourism*, 6(3), 210-230.

Stronza, A. & Gordillo, J. (2008). Community views of ecotourism; Redefining benefits. *Annals of Tourism Research*, 35(2), 444-468.

TAMAR. (2011a). Projeto TAMAR. Retrieved from <http://www.tamar.org.br/index.php>

TAMAR. (2011b). Tamarzinhos. Retrieved from <http://www.tamar.org.br/interna.php?cod=179>

TIES (The International Ecotourism Society). (2008). What is Ecotourism? Retrieved from http://www.ecotourism.org/site/c.orLQKXPCLmF/b.4835303/k.C64B/What_is_Ecotourism.htm

Tisdell, C. & Wilson, C. (2002). Ecotourism for the survival of sea turtles and other wildlife. *Biodiversity and Conservation*, 11, 1521-1538.

Vieitas, C.F. & Marcovaldi, M. A. (1997). An Ecotourism Initiative to Increase Awareness and Protection of Marine Turtles in Brazil: the Turtle by Night Program. *Chelonian Conservation and Biology*, 2(4), 607-610.

Vietas, C.F., Lopez, G.G. & Marcovaldi, M.A. (1999). Local community involvement in conservation: the mini-guides program. *Oryx*, 33(2), 127-131.

Wilson, C. & Tisdell, C. (2001). Sea turtles as a non-consumptive tourism resource especially in Australia. *Tourism Management*, 22, 279-288.