



**Final report of Club P.A.N.'s activities during the third school year
(October 2009 - June 2010)**

**CLUB P.A.N. – A conservation education project of the Wild Chimpanzee
Foundation around the Tai National Park in Ivory Coast**

Grant submitted by the Wild Chimpanzee Foundation and prepared by the Primate Conservation Group of the Max Planck Institute for Evolutionary Anthropology in cooperation with the CPE (Cellule des Projets Environnementaux, Ivory Coast)

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- 1 Introduction - page 2
- 2 Club P.A.N. goals – page 3
- 3 Achievement of goals – page 3
- 4 Staff – page 7
- 5 Overview of the Club P.A.N. program - page 8
 - 5.1 Creation of the lesson book – page 8
 - 5.2 Teacher training – page 8
 - 5.3 Club P.A.N. lessons – page 9
 - 5.4 Evaluations - page 10
 - 5.5 Parents days – page 10
 - 5.6 Micro projects – page 12
- 6 Future outlook – page 13
- 7 References – page 13
- 8 Acknowledgements – page 13



1 Introduction:

Over the last 20 years, chimpanzee numbers in Ivory Coast have plummeted by 90% (Campbell et al., 2008). Chimpanzees constitute around 3% of the species sold in urban markets and served in village restaurants (Caspary et al., 2001). In addition to short-term projects aimed at reducing the impact of bushmeat hunting on local wildlife populations, such as increased anti-poaching patrols and other law-enforcement strategies, it is important to consider long-term programs to protect endangered wildlife. In this respect public outreach and awareness programs can play a vital role in changing local attitudes towards the intrinsic value of wildlife. Conservation education is seen as a priority action for the conservation of chimpanzees and other wildlife (Kormos et al., 2003). Awareness raising campaigns of the Wild Chimpanzee Foundation (WCF) in the past have conveyed the need to conserve chimpanzees through interactive theaters, discussion rounds, films and newsletters. This has happened both at a local scale around Taï NP and internationally. These campaigns are often targeted at adults whereas long-term approaches oriented towards the next generation have only rarely been employed thus far. Therefore, the WCF expanded in 2007 its education activities to include the local schools around the park. Ten nature clubs called "Club P.A.N." (Personnes, Animaux et Nature / People, Animals, & Nature) were created in ten primary schools around Taï NP (four schools in Soubré and one in Petit Tiémé, Taï, Diéro-oula, Paulé-oula, Sakré and Ziriglo). In 2009/2010 Club P.A.N. expanded to two new schools (Amaragui and Daobly). The creation of Club P.A.N. was only possible because of a long term collaboration between the WCF and the primary school inspection of the region of Soubré and especially their programme CPE "Cellule des Projets Environnementaux". The coordinators of the CPE program, Hilaire Guilahoux and Dabila Ouattara, are also leading and supervising Club P.A.N..



2 Club P.A.N. formulated the following conservation goals:

Goals	#1	#2	#3	#4
	Teach children about the local flora and fauna, so that they appreciate the biodiversity that exists in their region.	Teach basic knowledge on environmental issues in order to promote care and awareness towards nature conservation.	Discourage the trade in illegal bushmeat by reducing the likelihood that the current generation of children will consume or trade bushmeat in the future.	Promote the conservation and research activities undertaken within the Taï NP.
Activities	Five lessons emphasize the flora and fauna of the region's ecosystems: (lesson topics: "tropical rainforests", "biodiversity", "chimpanzees", "the food chain" and "the Taï National Park").	During the "environment" and "the animals and their habitats" lessons, students are taught the fundamental principals of biology, ecology and conservation.	The "human and animal conflict" lesson focuses on the illegal bushmeat trade. Information is presented to the students regarding the threats to plants and animals, discussion rounds and a play about the illegal bushmeat trade sensitizes the students and are used to convey the destructive effect of these practices.	The "protected areas" lesson conveys the importance of national parks and what humans are allowed to do or not to do in these areas. During the "Taï NP" lesson, researchers from the Taï NP and the WCF visited the students and explained their work and conservation activities to each class.
	<ul style="list-style-type: none"> • All lessons are interactive with games, songs, movies, nature walks and clean up actions. • Teachers are intensively trained in biology and environmental sciences • Parents are actively involved in the club as well on "parents' day" when the children from each class present what they have learnt in form of summaries, plays and songs. 			
Results (as determined by pre-and post evaluations)	Increased knowledge regarding the local flora and fauna.	Increased knowledge regarding environmental issues.	Students are able to identify the conflicts between humans and animals. Changed attitudes regarding the consumption and trade of bushmeat.	Knowledge and support of the conservation and research activities undertaken within the Taï NP.

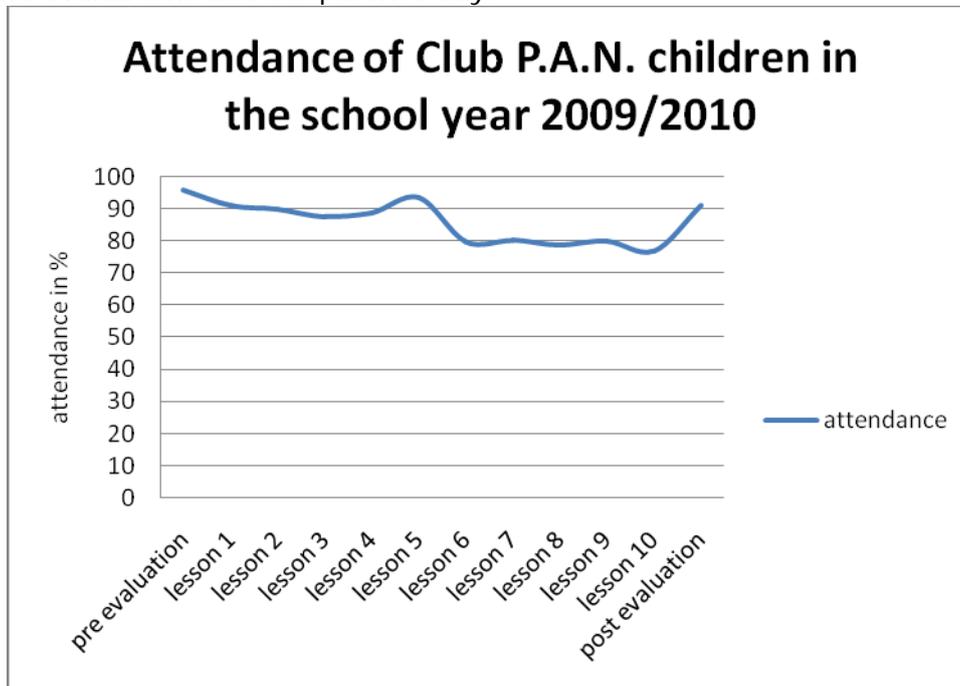
3 Achievement of conservation goals during Club P.A.N. lessons in the third year of the program:

The ten schools from the previous year's activities also participated this year. The schools were located in the villages of Ziriglo, Sakré, Diero-Oula, Paule-Oula, Taï, Hopital 1,2 and 4 in Soubré, Nabouhi and Petit Tiémé. By including two more schools in the third year, in the villages of Daobly in the West and Amaragui in the East, we had a total of 757 school children participating in the Club P.A.N. program. The overall attendance was on average 84 %, (Figure 1) which is very high since we are working on a voluntary base and on school free days (Wednesday and Saturday) when children are normally supposed to help at home



or on the fields with their families. All children participating in Club P.A.N. also participated in the various parent days.

Figure 1: Over 750 primary school children participated in Club P.A.N. lessons, the two evaluations and the parent's day.



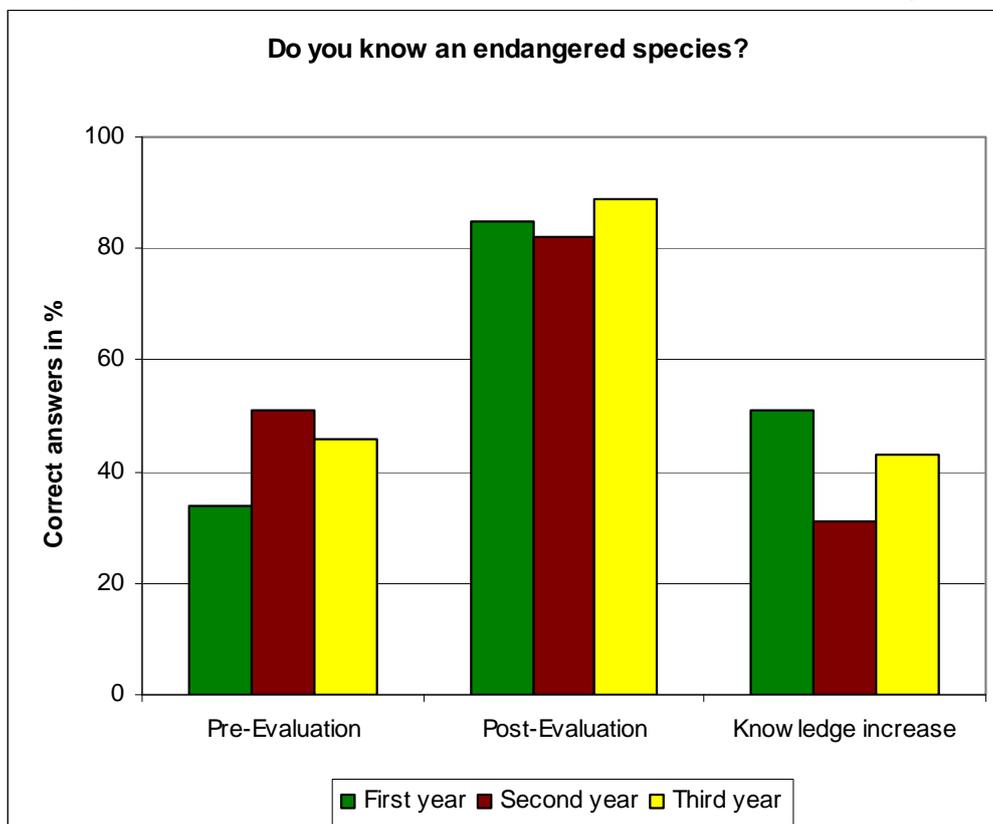
Children attended Club P.A.N. lessons about the flora and fauna of the region's ecosystems (goal #1). Five lessons emphasized the local environment: lesson 2 (tropical rainforests), lesson 4 (biodiversity), lesson 6 (chimpanzees), lesson 7 (the role of animals in nature) and lesson 10 (the Tai National Park). In all of these lessons, local flora and fauna were presented with pictures and detailed descriptions. Games were also used to explain, for example, the interactions between plants and animals, the different parts of a tree and the levels of a tropical rainforest. Lesson 8 (human and animal conflict) was very concentrated on Club P.A.N. goal #3, to discourage the trade in illegal bushmeat. Presentations of different threats to plants and animals, along with descriptions of hunting and logging techniques, discussion rounds and a short theatre play about the illegal bushmeat trade meant to sensitize the pupils were used to convey the destructive effect of these practices. Lesson 9 (protected areas) informed the students as to what protected areas are, why they are important and what humans are allowed to do or not to do in national parks. Lesson 9 also presented several protected areas around the world, in order to show the pupils that this is not a special case in Ivory Coast but that there are several initiatives all over the world to save animals and their habitats. During lesson 10 (the Tai National Park), pupils were



visited by researchers and conservators from the Tai National Park's headquarters, the Tai monkey project and the Tai chimpanzee project who explained their work and conservation actions in the park. With this lesson, Club P.A.N. was able to promote the conservation and research activities undertaken within the Tai NP, to pupils that would otherwise have very little contact with the protected area (goal #4). During lesson 1 (the environment) and lesson 3 (animals and their habitats), the students received background information on biology, environmental issues and conservation in order to promote care and awareness towards nature conservation and its significance (goal #2).

To analyze the effectiveness of our work, we compared the pre- and post- Club P.A.N. evaluations from the pupils that participated in the environmental education program. In these evaluations, we attempted to quantify the amount of knowledge gained by Club P.A.N. participants with regard to basic biological facts, the local flora and fauna and conservation in general. The evaluation results from the last three school year show that Club P.A.N. was able to increase the knowledge of the children by around 40-50%, not only about the local flora and fauna, but also about biological facts and global environmental issues (Figure 2).

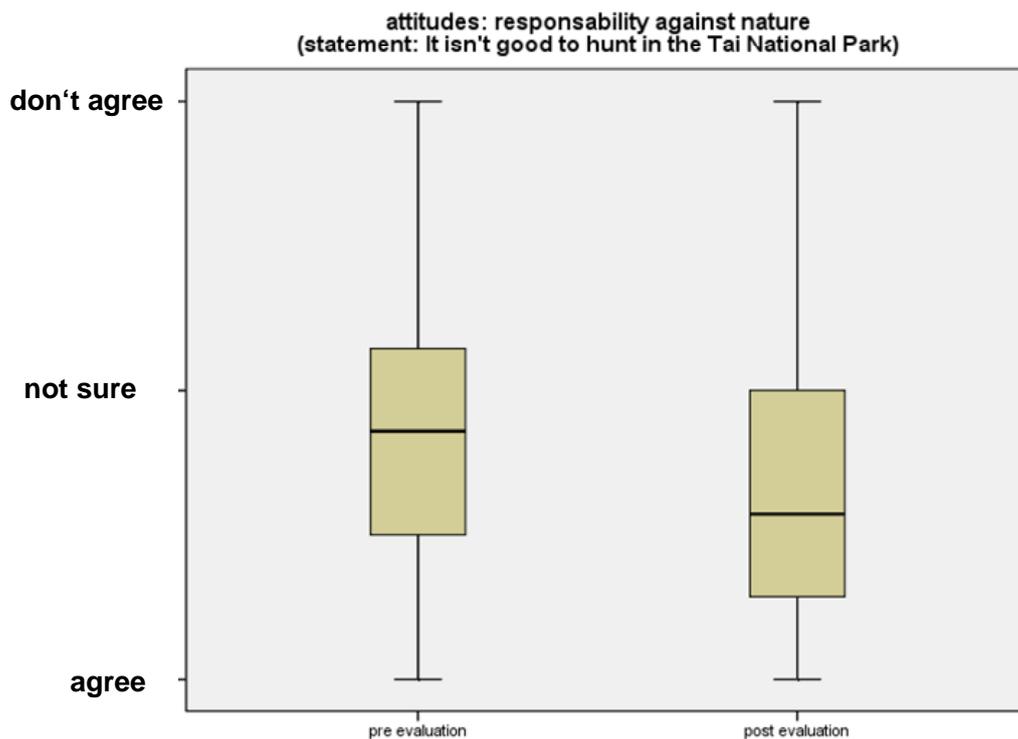
Figure 2: Children were asked if they know an endangered species during the pre- and post-evaluations of Club P.A.N. first, second and third school year.





The evaluation results show that the children change their attitudes concerning the hunting in Tai National Park (Figure 3), before the Club P.A.N. lessons started less children agreed that it is not good to hunt in the Tai National Park than after the lessons. There is a significant change in attitude after the 10 Club P.A.N. lessons: Wilcoxon test, $T_+ = 44711.5$, $N = 349$ (99ties), $P < 0.001$ (2-tailed).

Figure 3: Children were asked if they agree, are not sure or if they don't agree that it isn't good to hunt in the Tai National Park during the pre- and post-evaluations of Club P.A.N..



Using these evaluation results, we show that Club P.A.N. was able to increase the knowledge of the children, not only about the local flora and fauna, but also about biological facts and global environmental issues. Furthermore, we were successful in changing attitudes and we were able to create a fun and dynamic learning environment that the children enjoyed. All formulated goals were achieved during the Club P.A.N. lessons.



4 Staff:

Since 2007 Club P.A.N. is coordinated by Mr. Guilahoux and Mr. Ouattara from the "Cellule des Projets Environnementaux" in Soubré, Ivory Coast (Picture 1).

Picture 1: The two coordinators Mr. Guilahoux and Mr. Ouattara.



They lead and guide all of the principals and teachers involved in Club P.A.N.. They also organized the workshops and training sessions for the teachers, as well as the parents' days that took place. They have also written reports, distributed the materials necessary for the lessons, and aided with the budgets and evaluations. Mr. Ouattara participates in every lesson and helps the teachers during the class. He also takes the attendance data of the pupils.

Twelve teachers and principals belong to the staff. Four of the twelve teachers have been employed by the WCF for several years already (teachers of Sakré, Ziriglo, Diéro-oula, Paulè-oula). They teach the school curricula every day and do additional activities along with the WCF. These four teaches received their salaries completely from the Club P.A.N. budget and this is planned for the next years as well.



5 Overview of the Club P.A.N. program:

5.1 Creation of the lesson book:

In 2007 the conservation group prepared together with two comic and a book designer ten lessons for Club P.A.N.. This education book is public, so that other conservation education programs can use this prepared material:

<http://www.wildchimps.org/wcf/english/pan/lessonplan.html>

All pictures and texts are developed by this team. One lesson has around 25 pages and is filled with theoretical background, facts about the topic and with a lot of different activities like comics, songs, games, puzzles, labyrinths, spot the difference pictures, experiments and suggestions for nature walks. The lessons are in French.

5.2 Teacher training:

Despite the massive success of Club P.A.N. in its first year of operations, we realized in 2007 that several of the teachers involved in Club P.A.N. are not well enough educated in biology and some capacity building was needed to teach the lessons. To guarantee that the lesson plan and activities we developed could have the utmost impact during the school year, we decided to host training sessions to increase the capacity for environmental education in the Club P.A.N. teachers.

In 2009/2010 two teacher trainings were organized by Claudia Borchers, a biology-degree holding members of the conservation group. During the trainings the teachers were incredibly motivated to learn more about biology and ecology and were keenly interested in the nature documentaries and slide shows that were presented. They also greatly enjoyed the games, experiments and nature walks (Picture 2 and 3).

Picture 2 and 3: Claudia Borchers with teachers during their training.





5.3 Club P.A.N. lessons:

The lessons of Club P.A.N. started in November 2009, in the six east schools (Hopital 1, 2, 4 and Nabouhi in Soubré, Petit Tiémé and Amaragui) and in December 2009, in the six west schools (Sakré, Ziriglo, Diéro-oula, Paulè-oula, Daobly and Tai). In May 2010 the east schools have gone through all ten lessons and the west schools continued until June 2010. The lessons have been very successful. The attendance lists are full (Figure 1), and it has been extremely clear that the children love Club P.A.N.. Mr. Ouattara is doing a great job helping with any problems the teachers may come across during the lessons. He is always encouraging the teachers to make Club P.A.N. lessons as different as possible from normal school lessons. One of the ideas that has come from this, has been to look for areas where the lessons can take place outdoors to actually bring the children into the environment they are learning about (Picture 4 and 5).

Picture 4 and 5: Club P.A.N. nature class rooms.



The coordinator also introduced songs into the Club P.A.N. animations. Songs, games and role-playing activities make the animations more interactive. Children



can learn whilst playing and singing. Puppets, games, songs and the Club P.A.N. lessons are used together successfully during the animations (Picture 5). The two coordinators of Club P.A.N., have both been doing a phenomenal job since three years now. Not only have they been conducting the evaluations, but are also highly involved in coordinating and motivating all involved participants. Their continual promotion of the project is excellent. They always inform all the higher authorities and invite them to meetings and activities. It is also important to note that they really enjoy their jobs and are highly motivated to make Club P.A.N. as successful as possible.

We created a website, <http://www.wildchimps.org/wcf/english/pan/> , and blog, <http://clubpan.blogspot.com/> , which are updated regularly to highlight how fun and successful Club P.A.N. has been.

5.4 Evaluations:

To assess the children's knowledge and the success of Club P.A.N. we use evaluations. The questionnaires, like the lessons, are in French.

- 1) Participation of each pupil in each session is recorded (Figure 1).
- 2) The children's knowledge of basic environmental, forest and animal issues are evaluated before and after participating in the conservation education program with multiple choice questionnaires (Figure 2).
- 3) The children's change in attitude regarding the consumption of bushmeat is evaluated before and after participating in Club P.A.N. (Figure 3).

5.5 Parents days:

During the first school year of Club P.A.N. we had the feeling that the parents do not necessarily get sensitized just because their children attend the club. The children may or may not be talking about Club P.A.N. at home. We were also unsure if the children would attempt to discuss the themes they learned about with their parents, as the high level of parental authority in most Ivorian families might prevent the children from talking to their parents about the problems we are attempting to address. In order to have a greater effect, it was decided that parents need to be better involved. To do so, we decided to create a parents' day. During these events the children present what they have learnt. Each school holds its own parents' day, which takes place in the nature class rooms and the children themselves present the Club P.A.N. activities in the form of songs, theaters, games, dialogs and poems. On average one event had more than 600



visitors. The people liked the presentations a great deal and the message was clearly understood by the population as a whole (Picture 6 and 7).

Picture 6 and 7: Parents days in Petit Tieme and Soubré.





5.6 Micro projects in Club P.A.N. schools:

During the third school year we established an African Giant Snail Farm micro-project in the village of Sakré (Picture 8). Club P.A.N. Sakré is one of our most successful and enthusiastic member schools and we hope to further motivate the Club P.A.N. children by rewarding them with the micro-project. Snail meat is thoroughly enjoyed by the local people around Tai NP but is currently not domestically raised in any of the villages surrounding the forest. By creating a snail farm, we hope to provide a cheap and desirable, alternative animal protein source to the people around the Tai NP with the overall aim of decreasing bushmeat hunting in the protected area and of teaching children alternatives to bushmeat hunting. The hope is that they learn farming techniques to produce domesticated animal protein, so that they do not have to get into the bushmeat hunting footsteps. In only two years the project will become self sustaining and all income will be reinvested in Club P.A.N. Sakré. In January 2010, the farm was build with 6 enclosures and a starting population of 40 adult breeding snails. By May 2010, the adult snails had laid their first eggs and from these eggs the first baby snails already hatched. In July 2010, the adult snails laid another clutch of eggs. We thank the Sakré Club P.A.N. children and teachers who have worked so hard to make this micro project such a success. The snail farm is not the first micro project connected to a Club P.A.N. school, the schools of Petit Tieme and Tai both have a grass cutter farm since some years (Picture 9) and the school of Daobly has a fish farm connected to it.

Picture 8 and 9: Micro projects in Petit Tieme (Grasscutter) and Sakré (Snail).





6 Future outlook:

Because each school year we have new children joining the nature clubs and long-term conservation education programs are important to change local attitudes, the WCF would like to continue the nature clubs for a fourth and fifth school year (October 2010 – June 2011, October 2011 – June 2012) with the potential to increase the number of participating schools and also increase the number of micro projects connected to Club P.A.N. schools. Because we start the fourth year already soon in October 2010, we have the financial support to continue Club P.A.N., but we are still missing support for the fifth year which starts in October 2011. Included will be the same twelve schools and the same staff as for the other years. We propose to continue the following project, using the existing WCF infrastructure, built on the positive long-term relationships between the WCF and all other involved partners (the CPE, local teachers and schools, local authorities, wildlife authorities, governmental representatives, other NGOs...).

We very much hope that you can support this project to continue the nature clubs in Ivory Coast for a fifth school year.

7 References:

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Report by Julia Riedel

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