Wild Chimpanzee Foundation

Final report on:

CLUB P.A.N. 2012/2013

A conservation education project of the Wild Chimpanzee Foundation in Guinea and Côte d'Ivoire

July 2013

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TABLE OF CONTENTS

1 EXECUTIVE SUMMARY

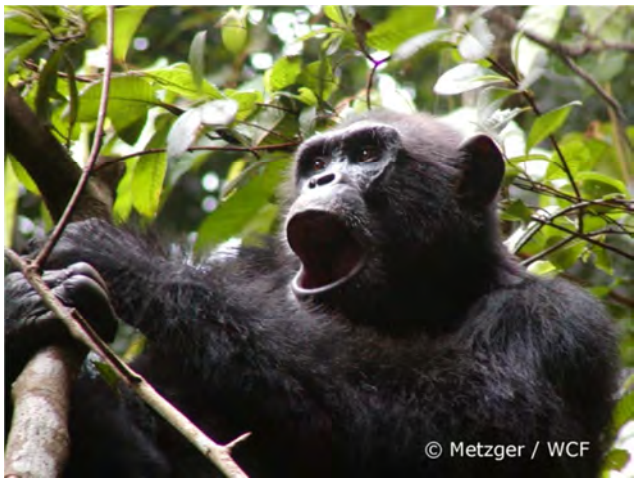
Club P.A.N. has now been active for its sixth consecutive year in Côte d'Ivoire around the Taï National Park and for its third year in Guinea. The present report provides an overview of what has been done during this school year of the program (2012/2013).

The highlight is a scientific publication on Club P.A.N. in 2013 presenting the impact it has on knowledge and attitudes in the children that participate in the program published by Claudia Borchers and colleges (Borchers et al., 2013). Claudia is a PhD student from the Max Planck Institute for Evolutionary Anthropology in Leipzig / Germany, who was for several years the responsible for the training of the teachers for pedagogic animation, the evaluation data collection, data analysis and the overseeing of all Club P.A.N activities. The results of the publication are summarized in the results section.

Club P.A.N. was fully active during this school year; reaching twelve schools in Côte d'Ivoire with 696 children and 4 schools in Guinea with 112 children. All these children joined two evaluations, 10 lessons and an additional new lesson number 11 with a chosen conservation activity by the children. All children prepared a parents day at the end of their school year and teachers where trained two times, the WCF achieved all Club P.A.N. objectives set out.

In order to curb the threats of bushmeat hunting, the WCF developed numerous alternative livelihood micro-projects aimed at providing alternative sources of protein such fish, poultry, cane rats and snails. Due to the post-election crises, some farms were abandoned and thus had to be rehabilitated in order to resume operations. The school micro-projects provide both an educational activity for many children in the villages but also as a means to support the development of the schools. WCF helped rehabilitate the cane rat and snail farms at several village schools and has built a new cane rat farm in Paulé-Oula and a new chicken farm in Kouperou. One of the village schools raised enough money from selling their stock that they were able to build a new cafeteria for the children.

A bushmeat study was conducted by an Ivorian student on markets, restaurants and families living in the areas of Taï and Djouroutou. During 2012, this study continued and adopted a new methodology with the introduction of weighing the meat. The bushmeat situation is still a pressing problem for many species, with trade coming across the border from Liberia.



Wild chimpanzee from Taï National Park in Côte d'Ivoire

2 INTRODUCTION

Wild chimpanzees are only found in tropical Africa, where their populations have declined by more than 66% in the last 30 years, from 600,000 to fewer than 200,000 individuals (Butynski 2001). A survey conducted in Côte d'Ivoire reports, that over the last 18 years, chimpanzee numbers have plummeted there by 90% (Campbell et al., 2008). Throughout their range, chimpanzees are threatened by deforestation, bushmeat hunting, disease, and capture for the pet trade. Although it is officially forbidden to kill, consume or trade wild animals, illegal hunting is widespread. In 1996, 35.5 million wild animals, totaling 120,000 tons and worth 149 million USD, were killed by Ivorian hunters (Caspary et al., 2001). The western chimpanzee has already disappeared from three African countries and is on the verge of extirpation in others. Urgent action is needed!

To assure the protection of chimpanzees, the WCF will continue its important short and long-term programs. Short-term projects, such as increased anti-poaching patrols and other law-enforcement strategies aim to reduce the impact of bushmeat hunting on local wildlife populations. The long-term projects like public outreach and awareness raising programs play a vital role in changing local attitudes towards the intrinsic value of wildlife. Conservation education is a priority long-term action for the conservation of chimpanzees and other wildlife (Kormos and Boesch, 2003). The WCF created in 2007 nature clubs called "Club P.A.N." (Personnes, Animaux et Nature / People, Animals & Nature) for primary schools in West Africa. Because the Club P.A.N. was very successful in its last years we continued the following project for its sixth year in Côte d'Ivoire and for the third year in Guinea.

Club P.A.N. children at the end of the school year during their parents day 2013

3 CLUB P.A.N. GOALS

WCF mission

Ensure the long-term protection of viable populations of wild chimpanzees and their forest habitats throughout tropical Africa.

Wild chimpanzees from Taï National Park in Côte d'Ivoire

Global project goals

School children near chimpanzee habitat are discouraged from consuming bushmeat and are pro-active in the conservation of chimpanzees and their forested habitat.

Specific project goals

1. Teach children about the local flora and fauna, so that they appreciate the biodiversity that exists in their region.
2. Teach basic knowledge on environmental issues in order to promote care and awareness towards nature conservation.
3. Discourage the trade in illegal bushmeat by reducing the likelihood that the current generation of children will consume or trade bushmeat in the future. Develop alternatives to bushmeat consumption.
4. Promote the conservation and research activities undertaken within the countries. Encourage local support towards the conservation of chimpanzees and their habitat.

Table 1: Club P.A.N. goals, activities and results.

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 countries.
Activities	Five lessons emphasize the flora and fauna of the region's ecosystems: (lesson topics: "tropical rainforests", "biodiversity", "chimpanzees", "the food chain" and "the national park").	During the "environment" and "the animals and their habitats" lessons, students are taught the fundamental principles of biology, ecology and conservation.	The "human-animal conflict" lesson focuses on the illegal bushmeat trade. Information is presented regarding the threats to plants and animals, discussion rounds and a play about the trade sensitizes the students and is 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.
	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.

4 STAFF

Club P.A.N. was only possible because of a long-term collaboration with the Cellule des Projets Environnementaux (CPE). The CPE coordinators Mr. Guilahoux and Mr. Ouattara are also the coordinators of Club P.A.N. since its start in 2007. Together with Mr. Gnolou and Mr. Kouakou in Côte d'Ivoire, Mr. Kaba and Mr. Diallo in Guinea, they are guiding all principals and teachers. They assist the teachers on-site with the lessons, conduct the teacher trainings, evaluate the project by quantifying student participation and administer a pre- and post-evaluation. In total, 16 teachers and 16 principals belong to the Club P.A.N. staff during the school year 2012/2013. For the first time we had a female Club P.A.N. teacher Ms. Kassi, welcome to our team!

Club P.A.N. coordinators Mr. Gnolou, Mr. Ouattara and Mr. Guilahoux from CPE

Club P.A.N. teacher Ms. Kassi and all Club P.A.N. teachers and principals in Côte d'Ivoire

5 RESULTS

5.1 Teacher training

All teachers and principals receive intense trainings to increase the capacity for environmental education and to guarantee that the lesson plan and activities could have the utmost impact during the school year. The training in the beginning of the school year happened in Taï / Côte d'Ivoire from 17. till 19.09.2012., and in Guinea in mid-January 2013 for 3 days. The first day was the occasion to start introducing notions such as biodiversity and conservation to the schools staffs. The second day was dedicated to study the 10 topics of the lesson-books and to discuss about the new introduced lesson 11 during this school year. During this additional lesson the children can chose an activity where they receive a small budget for and with this activity they have to do something good for the planet, ideas presented to the teachers where for example building an insect hotel, planting trees, cleaning up days. At the last day of the teacher training, the Club P.A.N. pedagogic methodology (mixing teaching and outdoor games) was explained. In addition, the theoretical training was backed by some practical pedagogic exercises, where the teacher capacities were then commented on by the supervisors. All staff members participated in both countries and were incredibly motivated to learn more about environmental education.

Club P.A.N. teachers during their workshop in September 2012: outdoor activities and discussions about the lesson book in Taï / Côte d'Ivoire

5.2 Club P.A.N. lessons

During the school year 2012/2013 twelve schools in Côte d'Ivoire participated with 696 children and 4 schools in Guinea with 112 children (Maps and Table 2). All schools and children attended 11 lessons this year in outdoor nature classrooms. Overall the Club P.A.N. activities started in September 2012 and ended in June 2013 in Côte d'Ivoire. In Guinea the activities were from January till February 2013. Club P.A.N. lessons involved fact sheets, activities, role playing, songs and games with animal puppets which are based around a chosen theme. We aim to promote positive club spirit through interactive ways of learning and essentially having fun. Each child that participated received a Club P.A.N. book and T-Shirt which both means a lot to them. Some lessons focus on the concepts of sustainable resource use and the need for protected areas; others detail the natural history of various large protected mammals (like chimpanzees & elephants).

Map 1 and 2: Club P.A.N. schools around the Taï National Park in Côte d'Ivoire (map left) and in the region of Boké / Sangaredi in Guinea (map right)

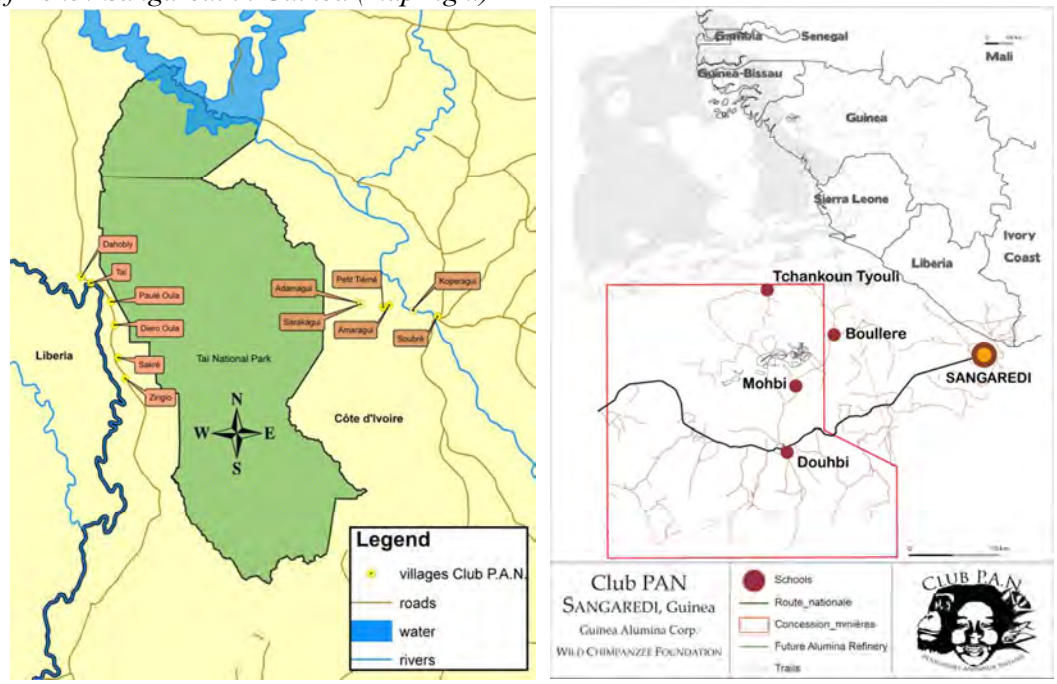


Table 2: Number of children participating in Club P.A.N. during the school year 2012/2013

Country	School	Club P.A.N. children	Total
Guinea	Bouléré	25	112
	Doubhi	30	
	Mobhi	27	
	Tchiankoun Tyoli	30	
Côte d'Ivoire	Taï	146	696
	Sakré	37	
	Ziriglo	40	

	Paulé-Oula	60	
	Diéro-Oula	39	
	Dahobly	40	
	Petit Tiéme	29	
	Gabon /Soubré	70	
	Amaragui	36	
	Adamagui	76	
	Sarakagui	60	
	Koperagui	63	
Total			**808**

Club P.A.N. sessions in nature class rooms, left candle experiment and right Club P.A.N. song

This year we created one additional lesson (lesson 11) because we present in each lesson activities the children can do to help conserving flora and fauna, and to do something good for our planet. For conducting such activities we do not have the time during the lessons. Now, we wanted to give them the chance to select one of their preferred activities from all lessons and to give them the time and a small budget to do this activity during lesson 11. The children were incredibly motivated and great projects where developed, the children of Ziriglo and Adamakro did a cleaning up day, where they collected trash around the school and in their village. The children of Petit Tiémé planted trees on their schoolyard. The children of Koupérou started a small school micro-project, they received money for 5 hens and one cock, and together with their teachers they have built a small house for the chicken, where they stay during the night. During the daytime they can run around free.

Activities during lesson 11: on the left children of Koupérou are building their chicken farm and on the right the children of Adamakro are cleaning their school and village from trash

The coordinators of Club P.A.N. have been doing a phenomenal job since years now. 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.

5.3 Parents days

In order to have a greater effect of the Club P.A.N. program, it was decided that parents need to be better involved and parents days were created. During these events the children present what they have learnt. The parents' days take place outdoors and the children themselves present the Club P.A.N. activities in the form of songs, theatres, games and poems. This year competitions between two Club P.A.N. schools where held in Côte d'Ivoire, children showed which class leaned the most and the villages that had the winner teams were incredibly proud about their children. Next year we will do the same in Guinea. On average one event had more than 400 visitors. The people liked the presentations a great deal and the message was clearly understood by the population as a whole.

Table 3: Number of spectators at the parents days during the school year 2012/2013

School	Parents day date	Number of spectators
Petit Tiémé & Amaragui	17-05-2013	~ 450
Gabon & Kopéragui	16-05-2013	~ 350
Koupérou, Adamakro & Sarakagui	18-05-2013	~ 550
Taï & Dahobly	26-05-2013	~ 600
Ziriglo & Sakré	24-05-2013	~ 450
Diéro-Oula & Paulé-Oula	25-05-2013	~ 400
Bouléré	February 2013	~ 250
Doubhi	February 2013	~ 600

Mobhi	February 2013	~ 250
Tchiankoun Tyoli	February 2013	~ 200

Pictures from the Club P.A.N. parents days in 2013

5.4 Evaluations

Pre-evaluations were done in January 2013 and post-evaluations in February 2013 for all children and some of their parents participating in Club P.A.N. in Guinea. In Côte d'Ivoire, pre-evaluations were done in September 2012 and post-evaluations in February 2013 for all children in the east of Taï National Park. The children from the western villages participated in the pre-evaluation in December 2012 and in the post-evaluations in May 2013.

Club P.A.N. evaluations in interview form, interviewer Ouattara Dabila

The Club P.A.N. evaluation results are published by Claudia Borchers and colleges (Borchers et al., 2013) in a peer-reviewed journal. Borchers et al. (2013) found that participation in Club P.A.N. significantly increased environmental knowledge and positively influenced attitudes towards nature.

Results on environmental knowledge by Borchers et al. (2013): "We found support for our first hypothesis that the participation in our environmental education programme increases the environmental knowledge (Figure 2). The intercepts for children who attended Club P.A.N. one or two years are all statistically significantly higher than those for children not attending Club P.A.N. (years of attendance = 0). The p-Values for pupils not attending Club P.A.N. are not statistically significant (for the group girls of the sixth grade, Table 1) or significant with a negative estimate (girls of the fifth grade and boys of the fifth grade, Table 1). In the combination of levels: boys of the sixth grade who never attended Club P.A.N. have a significant p-value with a positive estimate which is low in comparison to the estimates for pupils attending. For all other combinations of levels for the factors years of attendance, sex and grade, we get highly significant p-values and positive estimates (Table 1). The covariate pre-evaluation knowledge score has a significant influence on a positive estimate (estimate: 1.555, SE: 0.1194, $p < 0.001$). Estimates for sixth graders are higher than for fifth and additionally estimates are higher for boys than for girls within the grades."

Figure 2 from Borchers et al (2013): Values of the normalized post-evaluation knowledge score for the different combinations of grade, sex and year. The points within the boxes indicate the estimates for this group; a filled dot stands for significant p-value, an empty point for a not significant p-value for the respective intercept (The boxes including 50% of the data, the mean line represent the median, the whiskers indicating the upper limit for 97.5% of the data and the lower limit for 2.5% of the data. The stars indicate the minimum and maximum of the data).

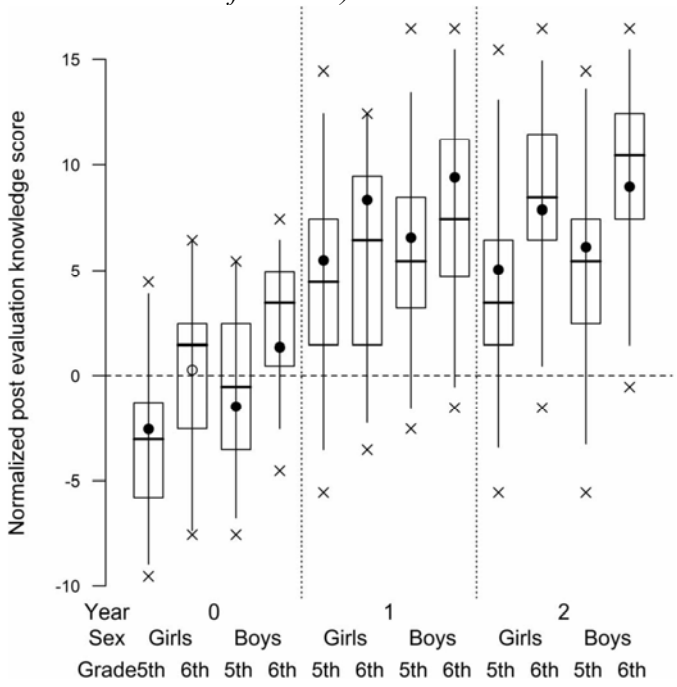


Table 1 from Borchers et al (2013):

Table 1. Results from the GLMM for knowledge gain for pupils attending the EE Club P.A.N. programme never, one year or two years

Years of attendance	Sex	Grade	Estimate	SE	p
0	Girls	Sixth	0.269	0.642	0.495
0	Girls	Fifth	−2.564	0.608	**<0.001**
0	Boys	Sixth	1.344	0.644	**0.027**
0	Boys	Fifth	−1.490	0.609	**0.026**
1	Girls	Sixth	8.334	0.473	**<0.001**
1	Girls	Fifth	5.501	0.458	**<0.001**
1	Boys	Sixth	9.408	0.461	**<0.001**
1	Boys	Fifth	6.575	0.445	**<0.001**
2	Girls	Sixth	7.886	0.458	**<0.001**
2	Girls	Fifth	5.052	0.528	**<0.001**
2	Boys	Sixth	8.960	0.447	**<0.001**
2	Boys	Fifth	6.127	0.519	**<0.001**

The normalized post-evaluation knowledge score was tested against the null-hypothesis that there is no knowledge increase. The p-value, estimate and standard error for the intercept for every combination of levels for the factors years of attendance, sex and grade are shown.

GLMM: Comparison of null and full model: $\chi^2 = 597.55$, df = 3, $p < 0.001$.
Bold values indicate $p < 0.05$.

Results on attitude change by Borchers et al. (2013): "We found support for our second hypothesis that the participation in our environmental education programme changes environmental attitudes (Figure 4). The p-values for pupils not attending Club P.A.N. (year of attendance = 0) are not statistically significant (for the group: girls of the sixth grade: 0.087) or significant with a negative estimate (girls of the fifth grade, boys of the fifth grade). Boys of the sixth grade have a significant p-value with a positive estimate, which is low in comparison to the estimates for pupils attending Club P.A.N. For all other combinations of levels for the factors, years of attendance, sex and grade, we get highly significant p-values and positive estimates (Table 2). The covariate pre-evaluations attitude mean for the utilization factor has a statistically significant influence with a positive estimate (estimate: 0.12829, SE: 0.011, p < 0.001). Estimates for the sixth graders are higher than for fifth graders."

Figure 4 from Borchers et al. (2013): Values of the normalized post-evaluation attitude mean for the utilization factor for the levels of the different factors included in the model. The points within the boxes indicate the estimates for this group; a filled dot stands for significant p-value, an empty point for a not significant p-value for the respective intercept (The boxes including 50% of the data, the mean line represent the median, the whiskers indicating the upper limit for 97.5% of the data and the lower limit for 2.5% of the data. The stars indicate the minimum and maximum of the data).

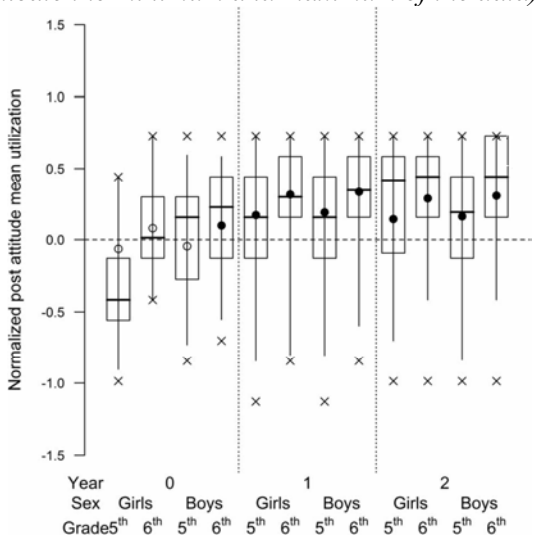


Table 2 from Borchers et al. (2013):

Table 2. Results from the GLMM for attitude change (utilization factor) for pupils attending the EE programme Club P.A.N. never, one year or two years

Years of attendance	Sex	Grade	Estimate	SE	p
0	Girls	Sixth	0.080	0.043	0.087
0	Girls	Fifth	−0.064	0.044	0.141
0	Boys	Sixth	0.099	0.042	**0.035**
0	Boys	Fifth	−0.045	0.044	0.253
1	Girls	Sixth	0.316	0.036	**<0.001**
1	Girls	Fifth	0.172	0.032	**<0.001**
1	Boys	Sixth	0.335	0.034	**<0.001**
1	Boys	Fifth	0.191	0.031	**<0.001**
2	Girls	Sixth	0.288	0.033	**<0.001**
2	Girls	Fifth	0.144	0.040	**0.003**
2	Boys	Sixth	0.307	0.032	**<0.001**
2	Boys	Fifth	0.163	0.039	**0.001**

The normalized post-evaluation attitude mean for the utilization factor was tested against the null-hypothesis that there is attitude change. The p-value, estimate and standard error for the intercept for every combination of levels for the factors years of attendance, sex and grade are shown.

GLMM: Comparison of null and full model: $\chi^2 = 220.84$, df = 3, $p < 0.001$.
Bold values indicate $p < 0.05$.

Conclusion of Borchers et al. (2013): "In the case of the present environmental education programme Club P.A.N., statistical analysis revealed changes in knowledge gain and attitude change. We conclude that attending Club P.A.N. can foster adolescent consciousness towards nature and the environment. Results revealed that there is a higher sensitivity for changing the utilization factor than the preservation factor. These are encouraging results and we propose to continue the programme under the conditions to encourage the participation of girls and to favor the participation of sixth graders to have optimal impact. The key open question is how the demonstrated knowledge gain and attitude changes translate into behaviour change towards nature. Are pupils with more knowledge and positive preservation values more engaged in pro-environmental behavior like eating less bush meat or influencing their parents to decrease the frequency or amount of bush meat consumption? These central questions about the conservation value of environmental education will be the focus of an additional publication where we could test this in the region of the Taï National Park in the frame of the long-term conservation programme of the Wild Chimpanzee Foundation (Borchers & Boesch, unpublished data)."

Please find more details about the Club P.A.N. evaluation results in:
Borchers C., Boesch C., Riedel J., Guilahoux H., Ouattara D. & Randler C. 2013. Environmental Education in Côte d'Ivoire/West Africa: Extra-Curricular Primary School Teaching Shows Positive Impact on Environmental Knowledge and Attitudes, International Journal of Science Education, Part B: Communication and Public Engagement, DOI:10.1080/21548455.2013.803632

5.5 Micro-projects

WCF has been working with school micro-projects since years (Table 5). In order to help promote alternatives to the consumption of bushmeat around the Taï National Park (TNP), WCF has helped build a new cane-rat farm in Paulé-Oula, a new chicken farm in Koupérou and has also helped with the rehabilitation of snail farms in Sakré and Djouroutou that were damaged due to the post-election crisis. WCF helped restart a project in Wonsealy where the WWF launched few years ago a school farm, as several animals had died from poison from corn that was bought (because of a chemical product that people put on the corn for conservation). To overcome this

problem, the school has now developed a small field of corn and other schools have now been advised to not use food bought from outside. The CPE coordinators were trained to supervise the farms, and an awareness campaign was undertaken to improve management.

Club P.A.N. school micro-project Giant African snail farm in Sakré

Table 5: Summary of school micro-projects around the TNP

Type of Farm	School	Date Created	Stock	Observations
Cane rat	Petit Tiémé	2006	30	Cane rats sold in 2012
	Paule-Oula	2012	10	Built new in 2012
	Taï	2012	25	Cane rats sold in 2012
	Wonsealy	2010	9	Rehabilitated in 2012
Snail	Djouroutou	2011	100	
	Sakré	2010	100	
Chicken	Koupérou	2013	6	Built new in 2013

So far not all schools received a micro-project but this is one main focus for the future of our work. Only if we can present and teach alternatives to bushmeat hunting the children will find a way to live in harmony with nature in the future.

5.6 Bushmeat study

Since 2009, the WCF has led a study on the bushmeat trade around TNP. The information of this study helps the park managers to be aware and updated in this illegal, complex and dynamic trade. It not only evaluates the degree of illegal bushmeat trade, but it also measures the impact of the TNP management and the WCF conservation measures. During 2012, we continued our bushmeat study. We adopted a new methodology with the introduction of weighing the meat.
Restaurants: Two studies on the consumption of animal protein by the local populations in the regions of Taï and Djouroutou were carried out during the months of July - August and

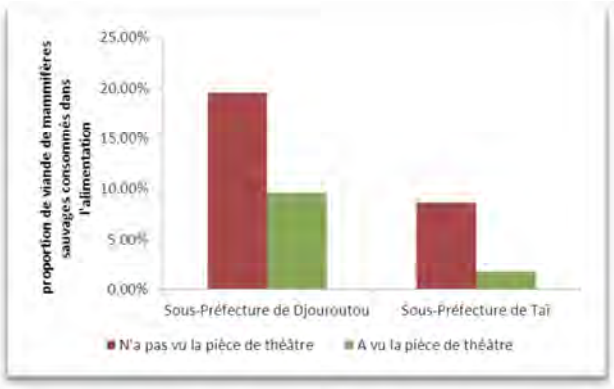
November - December 2012. In four restaurants studied in Djouroutou, a list of 23 wildlife species consumed was identified. In total, we weighed 167.57 kg of bushmeat in eleven restaurants visited on ten occasions. This means that by extrapolation, one can imagine that these eleven restaurants open every day sell a little more than 6,000 kg of bushmeat per year. Considering an average weight of 15 kg for a duiker and 4 kg for a monkey, it represents 192 duikers and 239 monkeys per year to supply these eleven restaurants.

Bushmeat in restaurants

Markets: The markets of Taï, Guiglo and Zagné were investigated. Over all, mammals made up 96.63% of all animals with three dominant orders: artiodactyls (40.6%), rodents (32.9%) and primates (16.12%). Duikers, rats, porcupines, cercopithecines and colobines were the most represented. At the market in Taï, with meat coming mainly from Liberia, 7,197 carcasses were found, 360 of which were endangered species. All these species are thought to come from ten different localities along the Liberian and Côte d'Ivoire border.

Families: We have weighed 20.79 kg of meat in 71 families visited over four days each, including 3.81 kg of duiker meat and 0.46 kg of monkey meat. By extrapolation, this amounts to over 23 duikers and 10 monkeys consumed by these families each year. Preliminary analysis shows that there is a relationship between the amount of bushmeat consumed by those humans unaware of conservation efforts and those who have participated in awareness raising campaigns (Figure 1). There are no analyses yet about the impact of the micro-projects, due the fact that these projects are still in its beginning phase and are not yet producing enough protein to notice a significant change in the market. The primary data collection will be used as a baseline to understand the impact of animal protein from farming on the local markets.

Figure 1: Impact of awareness on the consumption of bushmeat



6 CONCLUSION & OUTLOOK

Thanks to the support of our sponsors and partners, the WCF's environmental education program Club P.A.N. was fully active during the school year 2012/2013 in four schools in Guinea and twelve schools in Côte d'Ivoire with a total of 808 children participating and an average of 400 adult spectators during the parents days. Our recently published evaluation results showed 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 (Borchers et al. 2013). Furthermore, we were successful in changing attitudes (Borchers et al. 2013) and we were able to create a fun and dynamic learning environment that the children enjoyed.

The continuation and development of alternative livelihood programs focusing on producing protein alternatives to bushmeat is absolutely essential for the survival of chimpanzees and other rare and endemic wildlife in Africa. In conjunction with these livelihood programs, local communities must not only become sensitized and educated to conservation efforts, but also implicated in the process. The local support of the communities is a major component in maintaining the health of ecosystem services and the wildlife they support. Additionally, in order to properly measure the effectiveness of these programs and the management of protected areas, surveys such as monitoring the consumption of bushmeat gives us an ideal of which programs work the best, and in what areas need improvement. They also allow us to identify areas of high risk so that we can focus the counter bushmeat strategies to these areas.

One of the strengths of the WCF is the motivation of our team, always reactive and creative when it comes to bring the people together for the sake of chimpanzee conservation. Because each school year we have new children joining the nature clubs and long-term conservation education programs have been shown as efficient to change local attitudes (see recent Club P.A.N. publication by Borchers et al. 2013), the WCF will continue the nature clubs for another school year with the potential to increase the number of participating schools and also increase the number of micro-projects connected to the Club P.A.N. schools. We also plan to expand this promising program towards Sapo National Park, in Liberia, as part of the WCF's transboundary approach to the important Taï-Sapo Forest Complex. At this time, we are currently looking for funding to complete all the needs a full school year requires.

Time table of all Club P.A.N. activities during the next school year 2013/2014

Club P.A.N. Event / Time	**10/13**	**11/13**	**12/13**	**01/14**	**02/14**	**03/14**	**04/14**	**05/14**	**06/14**
Teacher training									
Pre-Evaluation									
Lesson 1-11									
Post-Evaluation									
Parent day									
Teacher training									
Data Analysis									

7 REFERENCES

Borchers C., Boesch C., Riedel J., Guilahoux H., Ouattara D. & Randler C. 2013. Environmental Education in Côte d'Ivoire/West Africa: Extra-Curricular Primary School Teaching Shows Positive Impact on Environmental Knowledge and Attitudes, International Journal of Science Education, Part B: Communication and Public Engagement, DOI:10.1080/21548455.2013.803632

Butynski T.M. 2001. Africa's Great Apes. In Great Apes and Humans: The Ethics of Coexistence (Becks B., Stoinski T.S., Hutchins M., Maple T.L., Norton B., Rowan A., Stevens E.F., Arluke A., editors). Washington D.C.: Smithsonian Institutions Press. pp 3-56.

Campbell, G., Kühl, H., N'Goran, K.P. and Boesch, C. 2008. Alarming decline of West African chimpanzees in Côte d'Ivoire. *Current Biology* 18 (19)

Caspary, H.U., Koné, I., Prouot, C., & de Pauw, M. 2001. La chasse et la filière viande de brousse dans l'espace Taï, Côte d'Ivoire. Tropenbos Côte d'Ivoire Série 2. Tropenbos International, Wageningen, The Netherlands

Kormos R., Boesch C., Bakarr M.I., Butynski T.M. 2003. West African Chimpanzees – Status Survey and Conservation Action Plan. IUCN/SSC Primate Specialist Group, Gland, Switzerland

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