

Preliminary report Community Rangers Project: Enhancing Community Field Assistants' Capacity for Long-term Collaborative Conservation Management of Pangolins in the Deng-Deng National Park

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Period of study: 13th October to 09th November 2023



Figure 1: Research team

Team members:

- **Esong Lionel Ebong (Team Leader)**
- **SIMO TALLA Franklin, PhD**
- **Shuimo Trust (Conservation Communications Officer)**
- **MESUMBE BERNSIRENE EWANGE (B.Sc. Student, University of Buea)**
- **LIYONG Giscard Léon, Eco-guard MINFOF**
- **DODO Fridolin, (Disengaged Hunter and Local Field Guide)**
- **Wapan Floribert, (Disengaged Hunter and Local Field Guide)**
- **Hanboa Esaie (Disengaged Hunter and Local Field Guide)**
- **Abba Jackson (Disengaged Hunter and Local Field Guide)**
- **Belinga Ezechiel (Disengaged Hunter and Local Field Guide)**
- **Baba Abel (Disengaged Hunter and Local Field Guide)**

General Objective: To train 06 local field assistants in biomonitoring of pangolins using SMART survey tools; camera trapping, GPS, cyber-tracking, and data collection and recording on field data forms for the long-term collaborative conservation of pangolins in the Deng-Deng National Park.

Specific objectives: It was for us to: 1) train and equip 06 disengaged hunters as local field assistants to foster the surveillance, 2) document pangolin in their habitats using Camera trapping, 3) Assess bushmeat harvest and wildlife trade in and around DDNP via key informant and bushmeat dealers, 4) to suppress anthropogenic threats by removing human installations like snares, hunters' house and 5) raise awareness and boost the sense of belonging through community inter-pangolins football animation.

Equipment used

- Map of the study site, two Hand held GPS units Garmin 65s, Camera Traps, Lensatic military Compass, a stopwatch, one digital camera NIKON, Energizer Batteries as well as spare batteries for both the cameras and the GPS, 15 SD Cards Sandisk, 10 head torches, data collection forms, a note book "write in the rain", tents, sleeping mats, Protective clothing, machetes and files.

Arrival and Presentation at the community

We were welcomed to the delegation of the forestry and Wildlife of Bertoua and to the forestry and hunting station of Deng-Deng respectively by the Conservator Mr. ABESOLO MENVI Charles as well as his temporary and by Mr. LIYONG Giscard Léon (Eco-guard). We then assembled our team members as described above, who were already expecting us. The Local guides particularly received us with excitement as they were overwhelmed with a new project initiative that considered their full participation as key stakeholders in which we also presented their working materials like raincoats and rainboots. We then presented our plan and agreed on training as the preliminary project activity.



Figure 2: Community guides working material

Our next action was the training of the local guides on the use of biomonitoring tools as well as on environmental ethics.



Figure 3: Training of the local guides: **A)** Education on environmental ethics/filling of datasheets, **B)** Outdoor training using survey tool like GPS, compass **Ci & Cii)**



Figure 4: Refresher course for MINFOF ecoguards

The entrance in the southern zone of the park was made from the village Deng-Deng marked with the GPS point on which we started the observation of animal presence indices, with special focus on pangolins, their signs and age of signs. Once in the area, we proceeded to the assessment of transects one after another as described on the map (Figure 4).

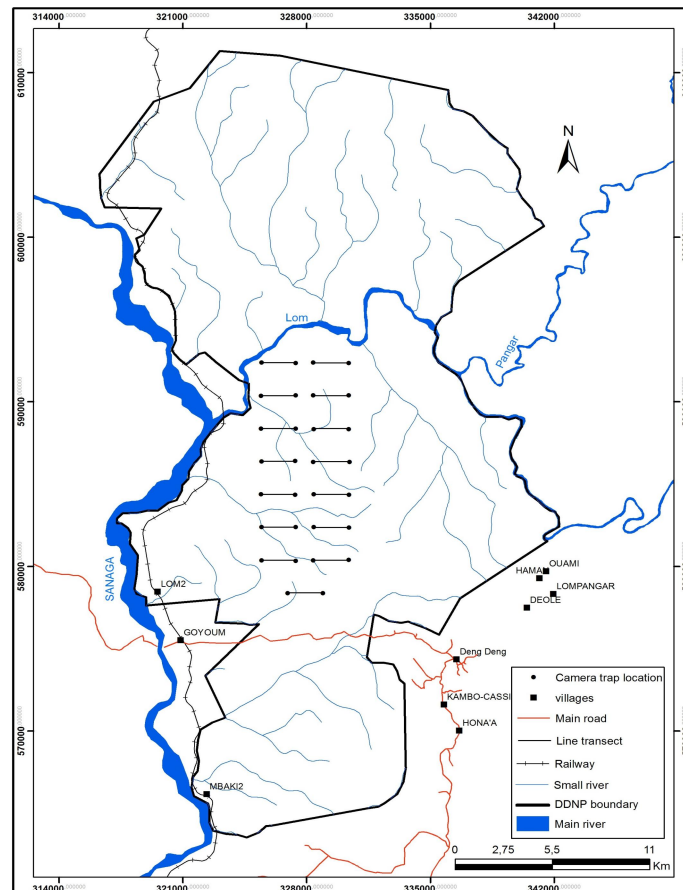


Figure 5: Survey map showing transects location

Establishment of transects

It was done using the Hand held GPS and the compass. With the help of the GPS we targeted a point (end transect) located 2 km from our position (early transect) and rallied this point using the compass by following the orientation of the angle given by the GPS (Figure 3A). Transects were opened by the cutter. The latter was immediately followed by a scientist equipped with the Hand held GPS to check the orientation angle, the distance traveled and to record GPS points of all suspected pangolin signs. Another scientist was responsible for recording the data in the notebook (Figure 3B). The remainder of the team's role was to search for all potential Pangolin presence indices, although this task was also the responsibility of all team members working along the transects. Transects were separated respectively by 1 km recce for transects on the same line and 2 km for those on different lines.



Figure 6: Walk along transect and data collection

Collection of pangolin indices of presence

Along transects and recces, we identified and recorded all potential sign of pangolins presence that was guided with the Local Ecological Knowledge of the Local guides. The main signs recorded were the feeding sites, the burrows, and the claw marks on the trees (Figure 6). Since there is no evidence assuring that these signs are really those of pangolins, we emit this with great reserve and only the feeding sites located on dead woods that seem to be widely used by pangolins as a feeding site and as Pathways were chosen for the establishment of the cameras in addition to a few likely burrows.



Figure 7: potential signs of presence of pangolins: A) pangolin feeding site on dead wood burrow, B)Pangolin claws as it feeds on dead wood C) site of nutrition on the ground

For each sign encountered, we noted its GPS point, its age and the species. We also characterized the habitat environment of each sign by noting: the forest type, the undergrowth vegetation, the canopy cover, the undergrowth visibility, the slope, the elevation, and the weather.

All burrows encountered along transects were characterized by the measurement of the following parameters: diameter, length, width, depth and orientation. These were located on the ground, in trees and at the base of trees. Traces of human activities in the park were also recorded in the study area.

Threats Encountered

We noted the presence of hunters' tracks, old wood exploitation roads, bullet shells (Fig 7B), hunters' camps (Fig. 7A), and gun shut during the night including the time of the gunshots heard.

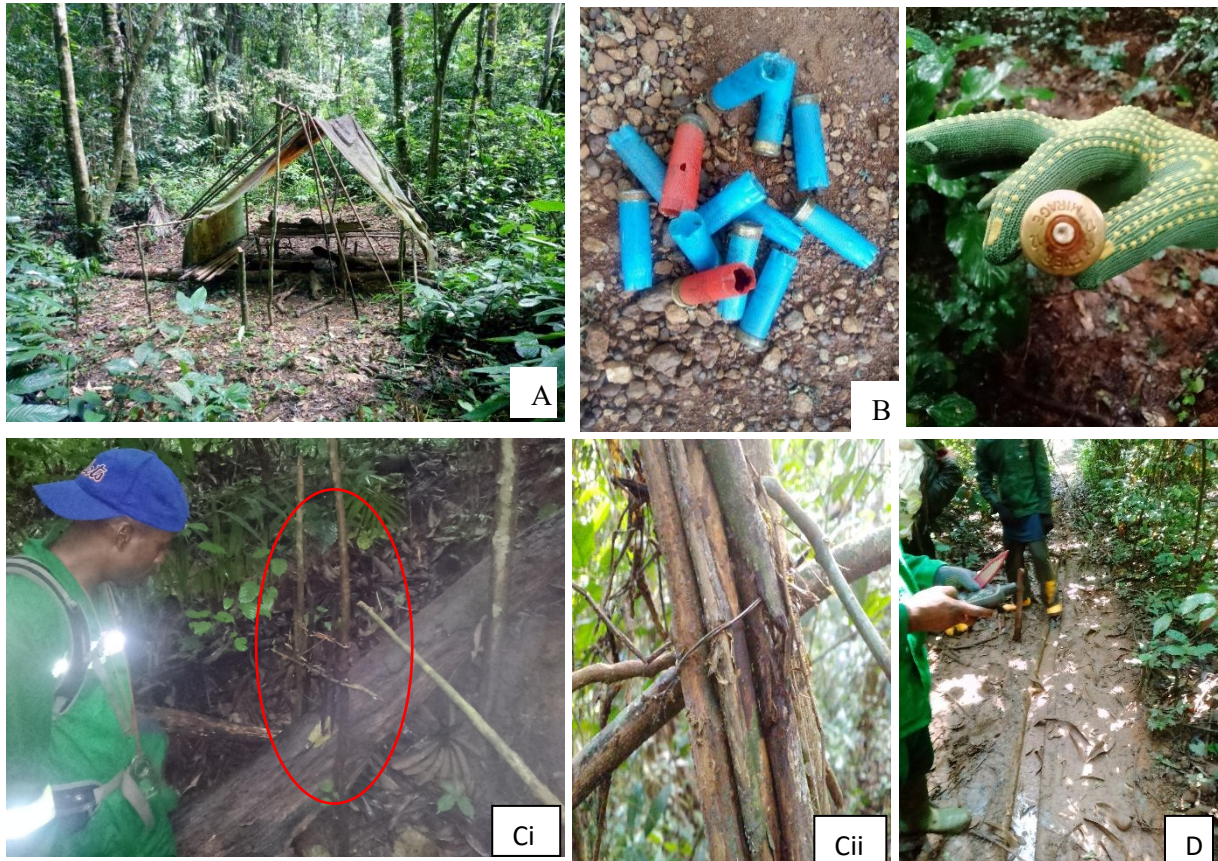


Figure 8: A) Hunter camp, B) bullet shells Ci & Cii) Typical pangolin snare set on a fallen log used by pangolins for passage/foraging, D) Active route used by poachers for the transportation of animal products (bushmeat)

Camera traps establishment

Only feeding point on dead woods that appear to be actively used by pangolins as a feeding site and as pathways were chosen for the establishment of cameras in addition to a few suspected burrows. Camera traps were established in order to confirm pangolin presence with images. Cameras were placed at a height of 30 cm above the ground according to the protocol described by Ancrenaz (2012) for small mammals such as Pangolin.

In the radius showing potential signs of Pangolins, we chose a tree providing the camera with a suitable orientation ensuring that the camera is not facing east or west as sunlight can affect pictures at sunrise and sunset if the camera position is not shaded. The ground was clear in front of the camera to avoid fake detection. The cameras were positioned

perpendicular to the natural assumed pangolin sign at a distance of 4-8 m with the aim of obtaining full body lateral images of the animal, a tape measure was use for this. The digital camera was use to check that at least 4 m clear ground is visible in front of the camera and when necessary a small stick was used to ensure the camera is angled appropriately. After installing a camera a detection test was conducted to ensure correct operation of camera. It consists in miming all the possible movements of the animal in the field of the camera to confirm the position and the operation of the camera (Figure 8). A prepared plasticized A4 format showing date, time read from GPS, GPS location of the camera (in UTM) and the altitude was then use to take the first picture of the camera. Associated information such as the forest type and the distance to the nearest water point were also recorded for each camera.



Figure 9: camera traps establishment: A) positioning the camera, B) detection test

CAMERA SET UP / RECOVERY PHOTO SHEET			
TEAM:	LIORAL E Long's Team		
DATE:	28/10/2023	TIME:	9:13 am
Park/Habitat type	DOND/FMSO/Lianas		
LOCATION/ WPT No.	Cam 4		
Target	Fallen Log	EL	
GPS UTM X	327529	327532	
GPS UTM Y	582334	582337	
(SETUP) / SERVICE / RECOVERY			

Figure 10: camera traps establishment: C) sample of camera prepared sheet cameras final verification,

Direct observations made in the park

1. Along the transects, we encountered a life White bellied pangolin (Phataginus tricuspis)



Figure 11: Encountered life *Phataginus tricuspis*

2. We also encountered a tortoise, a rare species that created a sense of excitement to us. While noting that it is not advisable to have direct contact or minimize contact with species during a conservation effort, we had to save a tortoise on which a large wood fell on it. This tortoise is now thriving.



Figure 12: Rescued forest hinge-back tortoise (*Kinixys erosa*)

3. Mushrooms were also seen, a sign of the generosity of nature. This served as food to the team for two nights.



Figure 13: Mushrooms

Encountered difficulties

During this work the main difficulties were:

There was disagreement among the local people who were project proponents on those to be trained and integrated as potential community rangers. Most of them wanted to be part of the Local guides knowing that it is a long-term conservation initiative and did not want to be left behind. Amongst them was a female (Engemba Philomena), who was a forest gatherer whom we had to finally integrate into the team. However, we encouraged the others not to be discouraged, assuring them that being a long-term conservation initiative we shall gradually like-minded and committed persons that will need to prove their zeal not for the financial benefit but for their ethical consciousness of the need of species welfare.



Figure 14: Female local guide (Engemba Philomena)

Also, we had to divert our course from the transect lines in most cases because most streams had over flooded their banks.

Football animation to boast the sense of belonging

A football game between the Giant Pangolin, White-bellied pangolin was played. This greatly awakened the sense of belonging and collaboration among every community members with a psychological impact in defending their pangolins. Immediately as the game was about to begin, the representatives of the pangolin teams expressed their commitment to always protect their species. It also appealed those who did not have the opportunity to directly engage in the project. It was also a ground for most community people like the youth leader to express himself how he perceived this conservation project initiative.



Figure 15: The Giant Pangolin Team (Pink) made up of Local guides and ecoguards, and the white-bellied pangolin (Green) made up of students and other community members

Environmental Education for schools

Awareness is being created in the school people through the Friend for nature initiative. We distributed flyers that contain vital educational information about nature and wildlife conservation. We emphasized on the ethical values for the conservation of nature by the school people and to also serve as ambassadors of protecting their biodiversity. The school administrators at both the primary and secondary school levels collaborated with the project team for the activation of environmental clubs. They accepted to uphold this initiative knowing that environmental and conservation education is neglected in their institutions.



Figure 16: Activation of Environmental clubs **A)** Government secondary school Deng-Deng **B)** Government Primary school Deng-Deng

Next step

We shall be retrieving camera traps in January 2024, during which there shall also be the last training phase of the local guides.

Also, the results based on the camera removal shall also be shared with the local community, including showcasing the threats and species captured.

More videos and pictures will be uploaded on the Project blog towards end of the project.

Acknowledgement

Appreciation to Mohammed Bin Zayed through its Species Conservation Fund for establishing ground for this long-term collaborative project.