# TECHNICAL PAPERS SERIES

## Design of a traceability system for the trade of alligator (*Caiman yacare*) products and by-products in the Plurinational State of Bolivia

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*Pictures: Pedro Azuga H.*

The Regional Project for the Management, Monitoring and Control of Wildlife Species Threatened by Trade (Bioamazon Project) is part of a commitment between the Amazon Cooperation Treaty Organization (ACTO) and the German Government to finance a regional project in the area of biodiversity conservation, forest protection and climate change, with funds from non-reimbursable financial cooperation channeled by KFW.

The objective of the project is to contribute to the conservation of the Amazonian biodiversity, especially CITES-listed species, by increasing the efficiency and effectiveness of the management, monitoring and control of wild fauna and flora species threatened by trade in ACTO member countries.

In Bolivia, the harvesting of the alligator (*Caiman yacare*) is in accordance with the guidelines for species listed in Appendix II of CITES, so the trade of products derived



*Adult alligator, Caiman yacare, Mamore River - Puerto Siles, Department of Beni.*

from it is strictly controlled to avoid threats to its conservation. In addition, a specific regulation stipulates that the beneficiaries of the harvesting must participate annually through local governments.

The Ministry of Environment and Water (MMAyA) together with the Amazon Cooperation Treaty Organization (ACTO), within the specific scope of activities, plans to establish the design of a traceability system for the trade of alligator products and by-products, for which Instituto AGRARIO Bolivia, applies to develop such design.

The following stages were proposed for the development of this system:

BIOAMAZON PROJECT
Conservation of species threatened by unsustainable trade

ACTO
Amazon Cooperation Treaty Organization

german cooperation
DEUTSCHE ZUSAMMENARBEIT

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BOLIVIA

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MEDIO AMBIENTE Y AGUA

- Description of the processes and procedures for harvesting both leather and alligator meat, establishing by actor their competencies, activities, monitoring and reporting processes; Identification of bottlenecks, everything was schematized in two detailed flows (meat, leather), which were later validated by technicians from the General Directorate of Biodiversity and Protected Areas (DGBAP) of the Vice-Ministry of Environment, Biodiversity, Climate Change and Forest Management and Development of the MMAyA, as well as legal representatives from the Bella Vista, Loreto and Tacana I regions; this process was done virtually due to the restrictions imposed by Covid-19 in Bolivia.

- Once the processes and procedures were established and validated, they were analyzed with the IT team of the AGRARIO Institute, in order to propose the appropriate technological tools and develop the system, agreeing on the design of an application (APP) for the use of alligator hunters affiliated to their regions, and the programming of a website integrated to the MMAyA system for monitoring and reporting on the traceability of alligator exploitation, which were worked on jointly with the technicians of the MMAyA Systems Unit.

- Once the APP and the web programming of the traceability system were designed, the reports were designed according to what is currently done physically, incorporating a token record numbering for each report, as well as the generation of two QR codes per document, one for protection and the other detailing the traceability of the information on the use of both leather and meat.

- Once the entire traceability system was integrated into the MMAyA system, the first tests were carried out with DGBAP technicians, which led to the necessary adjustments and complements. Once the system was validated, it was presented to the Departmental Governments of Santa Cruz and Beni and the respective technicians involved in harvesting.

- The entire system, already integrated with that of the MMAyA, including the mobile application (APP), was presented to CITES technicians and the Ministry's Systems Unit, for the analysis of integration through the QR code for traceability to CITES and the information reported by hunters, which is geo-referenced, for monitoring populations and hunting areas with the management plans and alligator population studies carried out.

- As a final stage, coordination was again carried out with the Governorates of the Departments of Beni and Santa Cruz for the validation process both with technicians and legal representatives, related to the use of the system, proceeding to the on-site training of the system, with which the respective manuals were prepared for each of the actors that will have access to the system, as well as the respective implementation plan of the system.

BIOAMAZON PROJECT — Conservation of species threatened by unsustainable trade

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The system has a mobile application in which hunters (with a password and access code) can generate reports detailing the location of the hunt, its geo-referenced point, day, time and the name of the hunter. Once the APP is connected to the internet, this report releases the information to the traceability system.
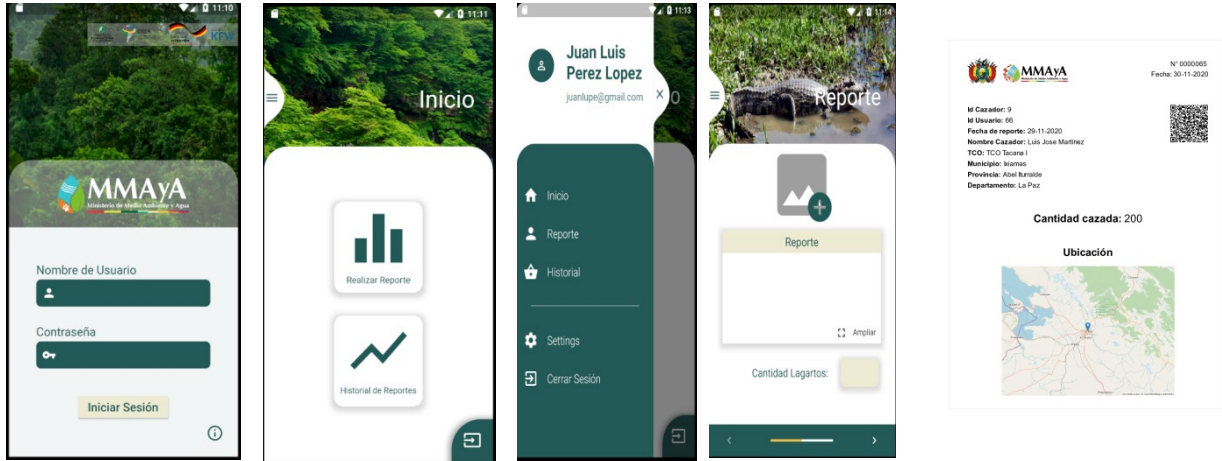


*Características de la aplicación, desde su inicio, los iconos de ingreso para reporte, los historiales, el menú en general y el reporte físico de la información del cazador protegido por un código QR, estableciendo su protección como documento único, que no puede ser falsificado ya que al momento de conexión a internet el mismo ingresa a sistema.*

Once the initial information, generated by the hunter, is reported directly into the system and automatically stored in the system, the main administrator, who is the DGBAP - MMAyA, generates the users and passwords for the rest of the actors who will have access to the system, from the technicians of the Governorates, legal representatives of the regions, accredited tanneries, etc., to the users and passwords of the other actors that will have access to the system, restaurants and cold stores that sell meat.
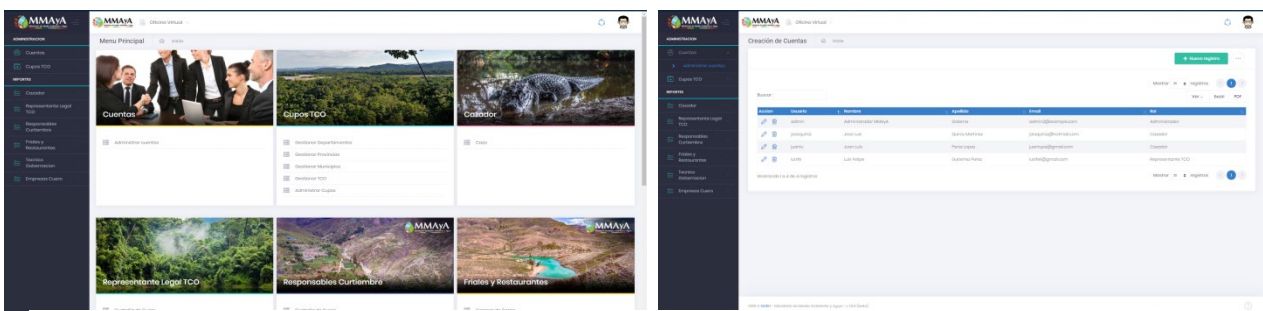


*Detail of the access to the system, where the different accesses of the actors that will be able to review the reports and monitor the same can be observed, next to it; the deployment of the system and the logic of the reports of the traceability system designed.*

Once all the information has been entered, both by hunters and legal representatives, the system itself stores the information, generating the respective databases, consolidated reports and the final product of the entire traceability system, which are the records of origin of leather and alligator meat.

*Consolidated report of the information, where you can see the token code of the numbering, the two QR codes, the lower one of document protection and the upper one of the traceability of the entire harvesting system, according to the competence of the actor, in this case of the legal representative of the regional that has a quota for leather and alligator meat harvesting.*

Once the entire system had been validated with the DGBAP technicians, the final adjustments were agreed upon and the traceability system validation and training process was carried out with the technicians from the Departments of Beni and Santa Cruz.









*Meetings to validate the traceability system, held with DGBAP technicians, to later coordinate with the Departmental Governments of Santa Cruz and Beni, respectively, to present the system, carry out the validation process with the various stakeholders involved in the harvesting process, and conduct training processes.*

The traceability system and application (APP) is already incorporated and integrated into the MMAyA system, in accordance with its technical specifications. The system has already been validated by all the stakeholders involved in the harvesting process and has the respective manuals, which are ready to be applied by all users and to generate reports, subject to authorization by the DGBAP - MMAyA administrator, who is the one who provides the passwords and access codes.

This consultancy was developed by:



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