Final evaluation

MAVA
FONDATION POUR LA NATURE

FINAL EVALUATION

WA1 - SEA TURTLE CONSERVATION IN WEST AFRICA 2018-2022

10.10.2022

1. INTRODUCTION

West Africa, home to one of the world's largest populations of loggerhead as well as green turtles, is a region of global importance for sea turtle conservation. Cape Verde is the world's primary breeding ground for loggerhead turtles, while the Bijagós Archipelago in Guinea-Bissau and the Banc d'Arguin in Mauritania are respectively the most important breeding and feeding sites for green turtles.

Sea turtle populations face significant threats. These include illegal and accidental capture, egg harvesting, habitat degradation, pollution, climate change impacts (e.g., coastal erosion, floods, rising temperatures), unregulated commercial and industrial activities (e.g., tourism, sand extraction, coastal infrastructure development, etc.), and over-predation.

Together, our partners in Cape Verde, Guinea-Bissau, and Mauritania worked to define conservation priorities and ensure the protection of sea turtle populations and habitats in West Africa.

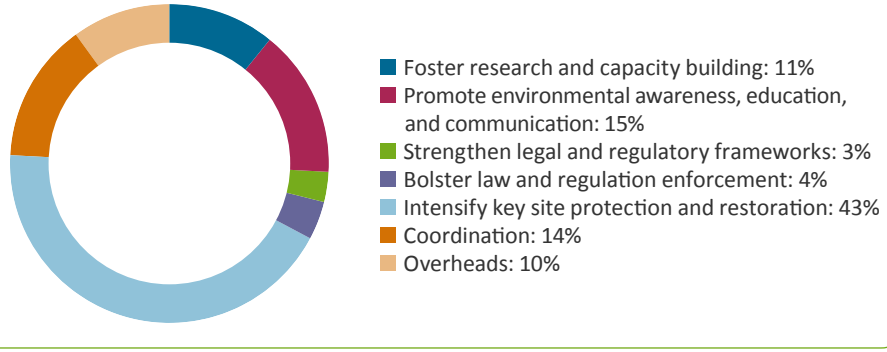
BUDGET ENGAGED

€ 5,916,896

OBJECTIVES

- foster research and capacity building
- raise environmental awareness, education, and communication
- strengthen legal and regulatory frameworks
- bolster law and regulation enforcement
- intensify key site protection and restoration

BUDGET PER STRATEGY



THE PARTNERSHIP

Ispa – Instituto Universitário de Ciências Psicológicas, Sociais e da Vida

Cabo Verde Natura 2000

Ministério da Agricultura e Ambiente – Direção Nacional do Ambiente

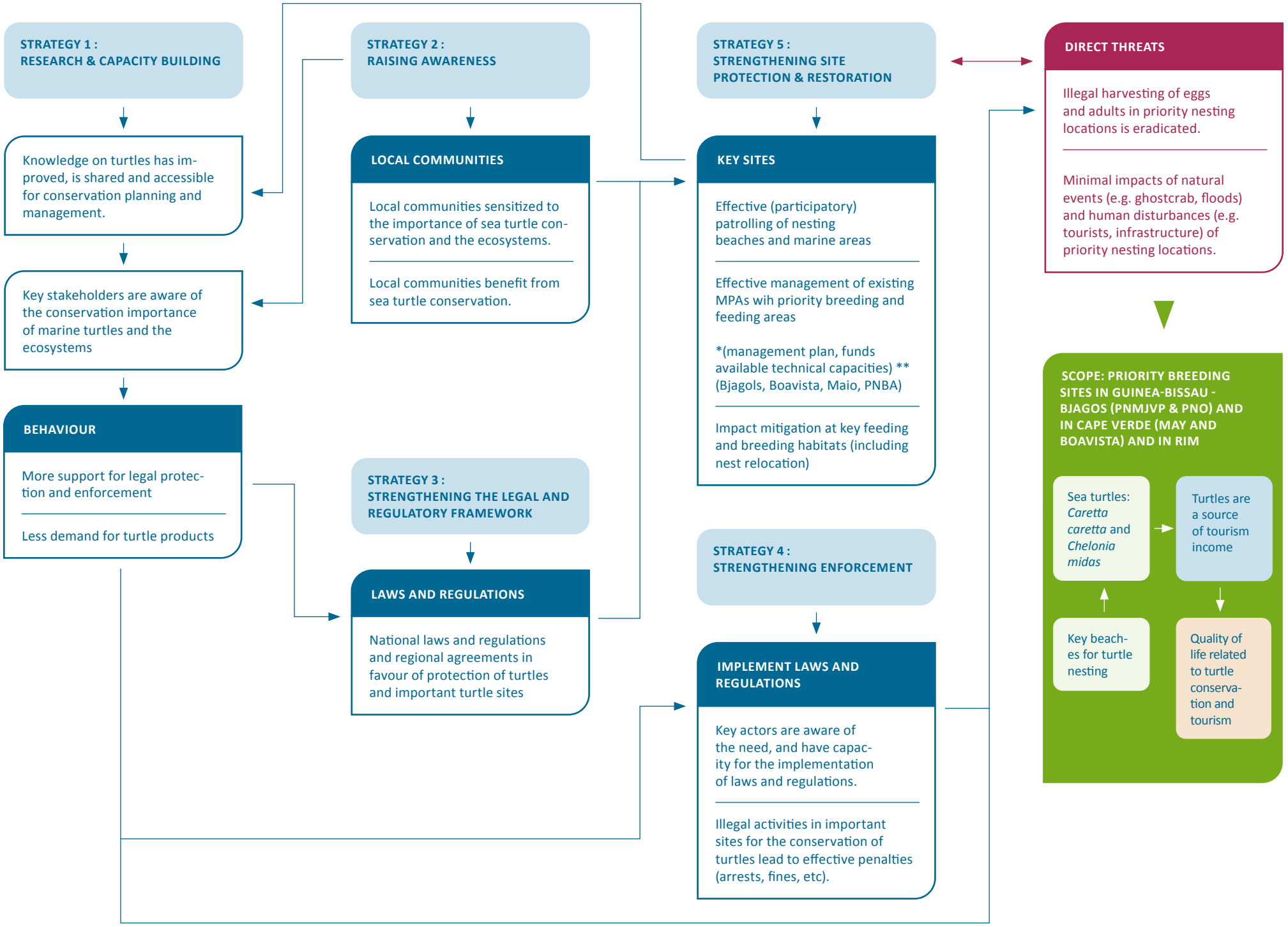
BIOS CV

Parc National du Banc d'Arguin

Turtle Foundation

Instituto da Biodiversidade e das Áreas Protegidas – IBAP

Fundação Mohamed Bin Zayed para a Biodiversidade


STRATEGY 1 :
RESEARCH & CAPACITY BUILDING
Knowledge on turtles has improved, is shared and accessible for conservation planning and management.
Key stakeholders are aware of the conservation importance of marine turtles and the ecosystems
BEHAVIOUR
More support for legal protection and enforcement
Less demand for turtle products
STRATEGY 2 :
RAISING AWARENESS
LOCAL COMMUNITIES
Local communities sensitized to the importance of sea turtle conservation and the ecosystems.
Local communities benefit from sea turtle conservation.
STRATEGY 3 :
STRENGTHENING THE LEGAL AND REGULATORY FRAMEWORK
LAWS AND REGULATIONS
National laws and regulations and regional agreements in favour of protection of turtles and important turtle sites
STRATEGY 5 :
STRENGTHENING SITE PROTECTION & RESTORATION
KEY SITES
Effective (participatory) patrolling of nesting beaches and marine areas
Effective management of existing MPAs wih priority breeding and feeding areas
*(management plan, funds available technical capacities) ** (Bjagols, Boavista, Maio, PNBA)
Impact mitigation at key feeding and breeding habitats (including nest relocation)
STRATEGY 4 :
STRENGTHENING ENFORCEMENT
IMPLEMENT LAWS AND REGULATIONS
Key actors are aware of the need, and have capacity for the implementation of laws and regulations.
Illegal activities in important sites for the conservation of turtles lead to effective penalties (arrests, fines, etc).
DIRECT THREATS
Illegal harvesting of eggs and adults in priority nesting locations is eradicated.
Minimal impacts of natural events (e.g. ghostcrab, floods) and human disturbances (e.g. tourists, infrastructure) of priority nesting locations.
SCOPE: PRIORITY BREEDING SITES IN GUINEA-BISSAU - BJAGOS (PNMJVP & PNO) AND IN CAPE VERDE (MAY AND BOAVISTA) AND IN RIM
Sea turtles: Caretta caretta and Chelonia midas
Turtles are a source of tourism income
Key beaches for turtle nesting
Quality of life related to turtle conservation and tourism

2. PROGRESS AND ACTIVITIES

The implementation of action plan strategies - based on a participatory and integrated approach at different levels, including collaboration between countries - enabled a fruitful exchange of good practice and experience in research, conservation, and communication.

Research, for example, highlighted significant connectivity between sites, islands, and countries, and helped strengthen conservation action. One case study mapped the movements of male breeding green turtles – a first in the region – and another on the effects of climate change on loggerhead turtle populations.

Involvement of key players in priority sites also had a positive impact by encouraging a strong sense of ownership over conservation efforts which helped to reduce pressure on sea turtles and their habitats.

Finally, significant progress was made in involving decision-makers, even if a lack of both political and institutional commitment continues to compromise the delivery of certain objectives.

STRATEGY 1: FOSTER RESEARCH AND CAPACITY BUILDING

We consolidated and developed scientific research on threats to sea turtles and their interaction in West Africa. Our activities included:

- improving understanding of the ecology and threats to principal sea turtle populations (loggerhead and green turtle) in West Africa;
- strengthening national capabilities and understanding of the ecology, conservation, and value of sea turtles (in ecotourism, culture, etc.);
- sharing scientific and indigenous knowledge with decision-makers, managers, and other stakeholders in conservation planning and management.

STRATEGY 2: PROMOTE ENVIRONMENTAL AWARENESS, EDUCATION, AND COMMUNICATION

We worked to inform and educate different sectors on the ecological, economic, and social importance of sea turtles and their ecosystems, as well as on existing legal instruments for their protection. Our activities included:

- organising awareness-raising events on environmental issues related to sea turtles;
- developing sector-specific tools on sea turtles and producing materials for the education sector.
- delivering training sessions for each sector covering legal instruments, mitigation measures, and good practices for reducing impacts on sea turtles;
- scheduling participatory community meetings and visits to priority breeding and feeding sites for decision-makers and stakeholders.

STRATEGY 3: STRENGTHEN LEGAL AND REGULATORY FRAMEWORKS

We assessed gaps in legislation designed to protect sea turtles, contributed to the establishment of coastal management plans, and improved officials' understanding of laws and regulations:

- legal frameworks updated and harmonized ;
- coastal management plans are in place ;
- a regional agreement for the protection of sea turtles and their habitats in Guinea Bissau, Mauritania and Cape Verde is in place

STRATEGY 4: BOLSTER LAW AND REGULATION ENFORCEMENT

We sought to reduce illegal activity by increasing penalty enforcement. Our activities included:

- training key actors (judges, prosecutors, police officers) to apply relevant sectoral laws and regulations;
- improving and developing law enforcement systems including the use of new technologies and approaches such as drones and sniffer dogs;
- lobbying decision-makers for the effective application of sanctions to discourage criminal acts.

STRATEGY 5: INTENSIFY KEY SITE PROTECTION AND RESTORATION

We strengthened sea turtle protection, improved community participation in priority site management and conservation, and supported sustainable income-generating activities designed to reduce human pressure on sea turtles and their habitats. This includes:

- improved patrolling on priority nesting and feeding sites;
- improved management of existing marine protected areas with priority nesting and feeding sites;
- impact reduction on priority nesting and feeding sites.

KEY LESSONS

Implementing the action plan has offered us a wealth of insights:

1. We have confirmed significant ecological connectivity between priority sites, and laid the groundwork for lasting collaboration.
2. New technologies and the application of indigenous knowledge have improved management and conservation efficiency while reducing the costs of monitoring and surveillance.
3. Local community participation at all stages of the management process has fostered ownership of conservation activities and been key to our success.
4. Younger generations have shown a more receptive attitude towards conservation, which is encouraging for its long-term prospects.
5. Exchange visits and meetings allowed us to share knowledge, challenges, and successes, helping to create a common vision for conservation.
6. Promotion of alternative income-generating activities and increased monitoring by local communities have reduced pressures on sea turtles caused by socio-economic crises and the COVID19 pandemic.
7. Raising awareness, improving understanding, and informing key authorities such as police, customs officials, and judges has facilitated application and implementation of relevant laws.
8. Stronger engagement of key national stakeholders (Action Plan, national focal points of international conventions, etc.) would have enabled the implementation of the Regional Agreement
9. Availability of substantial funds and procedural flexibility allowed for the efficient implementation of activities.

3. ACHIEVEMENTS AND IMPACTS

Over a thousand people from local communities are now involved in sea turtle conservation through direct and indirect employment, resulting in a positive attitude change and a reduction in turtle catches.

Our action plan has generated a wealth of scientific information that has been published in official journals and technical reports, and at conferences. This has guided our management and conservation work and contributed to international recognition of the region's importance for sea turtle conservation.

Scientific studies on sea turtles have demonstrated strong ecological connectivity between the region's marine protected areas, confirming the importance of the RAMPAO network and boosting partnerships between conservation stakeholders.

Our assessment of the impacts of global changes enabled us to make practical recommendations for mitigating negative impacts on sea turtle populations in priority sites – notably by establishing hatcheries, revising artisanal fisheries zonings, and identifying feeding sites.

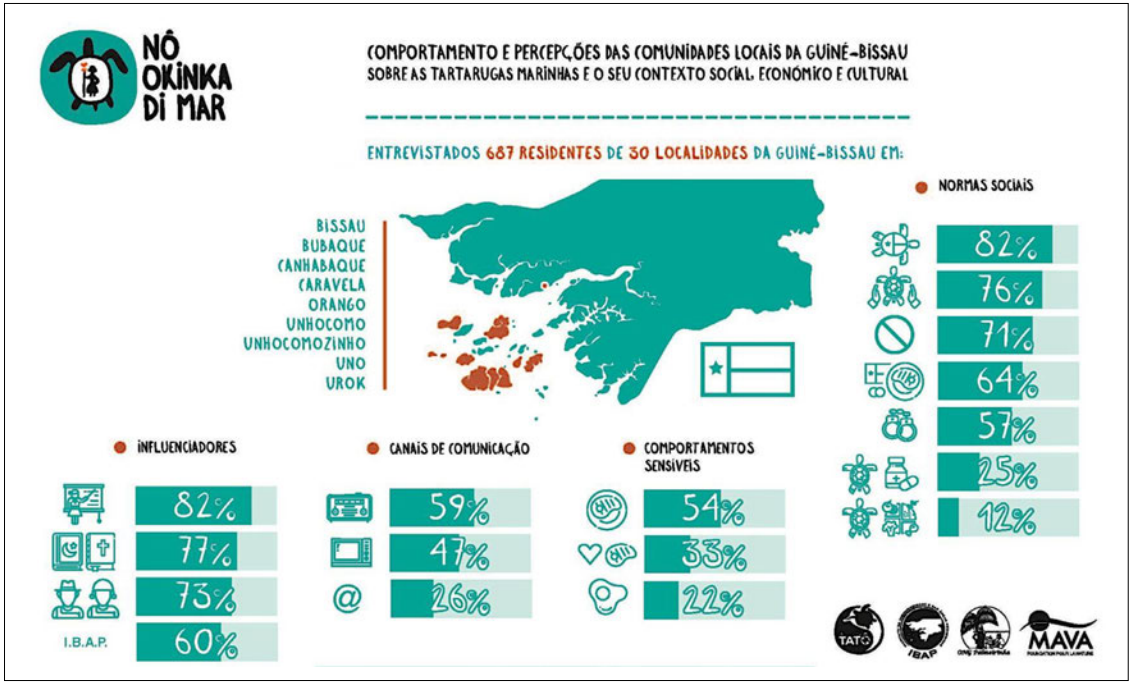
Capacity building has benefitted field staff, Bachelor, Masters, and Doctoral students, fishermen, and others. It has also encouraged experience exchanges between specialists from different countries.

Finally, increased regulatory enforcement have contributed greatly to improving the conservation of green and loggerhead sea turtle populations in the West African region.

CASE STUDY 1: SURVEY ON LOCAL COMMUNITY'S PERCEPTION OF SEA TURTLES, GUINEA-BISSAU AND CAPE VERDE

We carried out surveys to understand how local communities perceived sea turtles, egg collection, and meat consumption in Cape Verde and Guinea-Bissau. These highlighted a lack of knowledge and understanding about the essentials of sea turtle conservation. This led us to develop a sea turtle communication and awareness plan in Guinea-Bissau, and to encourage a positive change in attitudes about conservation work carried out in recent years on Boa Vista and Maio islands in Cape Verde.

In Guinea-Bissau, 82% of respondents considered sea turtles to be part of the country's national heritage, and 71% said their capture should be prohibited. However, on the island of Maio, illegal trade continues – a situation that can be explained by the persistent tradition of turtle meat consumption and its cultural acceptance.



Results, Survey on local community's perception of sea turtles, Guinea-Bissau and Cape Verde

CASE STUDY 2: EXPERIMENTAL ON-THE-WATER TURTLE CONSERVATION TRAINING, BANC D'ARGUIN NATIONAL PARK (MAURITANIA)

For the first time in the Banc d'Arguin National Park, we carried out experimental on-the-water turtle conservation information and training sessions for different stakeholders. These involved more than 70 people, including Imraguen fishermen, park technicians, and researchers from ISPA - Instituto Universitário. Group interaction and collaboration on activities such as seabed monitoring, sampling, banding, and setting up satellite transmitters, helped to expose and bring communities closer to conservation.

This pioneering activity helped to advance our collective understanding of ecological connectivity with Guinea-Bissau, including the structure, abundance, and distribution of green turtle populations in Banc d'Arguin.

Experimental on-the-water turtle conservation information and training sessions, Banc d'Arguin National Park

KEY IMPACTS

We found strong evidence for ecological connectivity of green turtle populations between six marine protected areas in West Africa. The Banc d'Arguin National Park alone represents one of the most important feeding sites in the region for this species, with about 50% of breeding females on the island of Poilão (Guinea-Bissau). Loggerhead turtles connect the various islands of Cape Verde and feeding grounds on the Atlantic coast of West Africa. We also found evidence that global changes are already negatively affecting sea turtle populations in the region. Interestingly, the crisis caused by the COVID19 pandemic brought sea turtle conservation organisations and local communities closer together. And our capacity building and awareness-raising efforts have encouraged positive behavioural change in local communities.

1. Connectivity between six marine protected areas in West Africa has been confirmed through satellite tracking of around 40 green turtles breeding in Guinea-Bissau, demonstrating the importance of the network of MPAs for conservation and highlighting the role of the Banc d'Arguin as a globally important feeding site.
2. National and international capacity building through financing and supervising undergraduate (24), Masters (22), and Doctoral (5) students, as well as training for local conservation workers (700 per year on average), strengthened technical teams and sea turtle conservation in West Africa.
3. Improved monitoring of nesting activities in priority sites in Cape Verde, covering 109 beaches in a 100 km2 area, enabled us to quantify a marked increase in the number of females and loggerhead turtle nests over the past few years, and identify this population as the world's largest.
4. Applying research and indigenous knowledge has guided conservation of sea turtles and key habitats. Notably, 15 areas of interest for the protection of these species have been identified. Additionally, experimental studies have helped optimise nest management techniques. This has helped mitigate the negative impacts of global changes, contributing significantly to the West African sea turtle reproductive success and population increase. Finally, recommendations based on these studies have been instrumental in updating national strategic documents (Action Plans, MPA Management Plans, etc.).
5. Providing thousands of local community members with opportunities to generate an income through activities such as monitoring turtle breeding, and renting houses for beach monitoring staff, has fostered attitude and behaviour change supportive of sea turtle conservation.
6. More than a thousand officials (police, gendarmes, customs officials, judges, etc.) were involved in monitoring and/or training on national laws and regulations for the protection of sea turtles and their habitat which led to better surveillance of illegal capture and the effective application of penalties.
7. Environmental education and awareness-raising with local communities and decision-makers has led to better overall understanding of sea turtle conservation, more active participation and involvement, and improved stakeholder collaboration.

4. WHAT WILL HAPPEN NEXT

Through this initial phase of project-based work, we can safely say that the partnership between the three countries involved has grown and become stronger – through technical exchange on monitoring and surveillance, awareness-raising, and scientific research. We now have a solid foundation and shared strategic interests, not just at a technical level but also in terms of species focus, language, and culture, all of which will facilitate lasting sea turtle conservation.

A few major challenges remain. These include the need to consolidate the regional partnership for sea turtle conservation in the West African ecoregion, as well as to identify current and potential gaps in conservation strategies. We also need to develop a common agenda within the regional partnership framework, and secure adequate funding for implementation. Encouragingly, we have already secured some funding that will enable us to continue certain activities following the MAVA's closure.

CONCLUSION

Thanks to the MAVA Foundation and this partnership, significant progress in understanding sea turtles and how to ensure their conservation has put Cape Verde, Guinea-Bissau, and Mauritania on the world conservation map. Our work is far from finished, however, and the health of sea turtle populations and lasting protection of their habitats will depend on it continuing.

> *"Sea turtles are the ultimate symbol of interdependence and ecological connectivity in West Africa. The various countries' partners should be inspired by this to build lasting ties and cooperation."*
>
> Janete Agues, Castro Barboza, Rocio Moreno, Ibrahima Gueye, Hortensio Lima

> *"Sea turtles are an umbrella species. Protecting them helps protect key habitats in the West African ecoregion."*
>
> Ebaye Sidina, Ana Liria, Samir Martins, Juan Patino Martinez, Elton Neves, Aissa Regalla Barros

> *"Protecting our turtles protects our heritage!"*
>
> Janete Agues, FMB