# CLIMAGINE Workshop I Report

**Regional Coastal Scheme (RCS) of the Tangier-Tetouan-Al Hoceima Region - GEF MedProgramme, Child Project 2.1.**

*Hilton Garden City Inn Hotel, Tangier, Morocco – 16th March 2022*

2.1
Mediterranean
Coastal Zones Climate
Resilience Water Security
and Habitat Protection"

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# 1 Introduction

## 1.1 THE GEF MEDPROGRAMME AND THE TANGIER-TETOUAN-AL HOCEIMA REGIONAL COASTAL SCHEME

The Mediterranean region is particularly affected by the adverse consequences of climate variability and change, coupled with existing socio-economic processes and increasing biogeographic vulnerability, with greater exposure in the region's coastal areas. As a result, Mediterranean coastal communities and areas are increasingly at risk.

The competent authorities are encouraged to take adaptation measures consistent with the ICZM (Integrated Coastal Zone Management) Protocol of the Barcelona Convention and their national policies. With this in mind, the Mediterranean Action Plan of the United Nations Environment Programme (UNEP/MAP) is developing a regional framework for climate change adaptation in order to strengthen regional coordination. Working in synergy with a revised Mediterranean Strategy for Sustainable Development (MSSD), this regional framework will help Mediterranean stakeholders and decision-makers at all levels to act in order to increase the resilience of natural and socio-economic coastal systems to the impacts of climate change. In addition, robust scientific methods are needed to assess coastal vulnerability and the risks associated with climate variability, and to understand the interactions between climate change and socio-economic and environmental systems.

The Climagine participatory approach is currently being implemented by Plan Bleu/RAC in order to support the development of a Regional Coastal Scheme (RCS) in the Tangier-Tetouan-Al Hoceima (TTA) Region of the Kingdom of Morocco, conducted by PAP/RAC and the competent Moroccan authorities: the Department for Sustainable Development, the Wilaya of the Region and the Regional Directorate of the Environment, TTA Region. Climagine contributes to the development of coastal management plans at the local and national levels using a bottom-up approach. This method can also generate lessons for ICZM and coastal climate change adaptation in the Mediterranean.

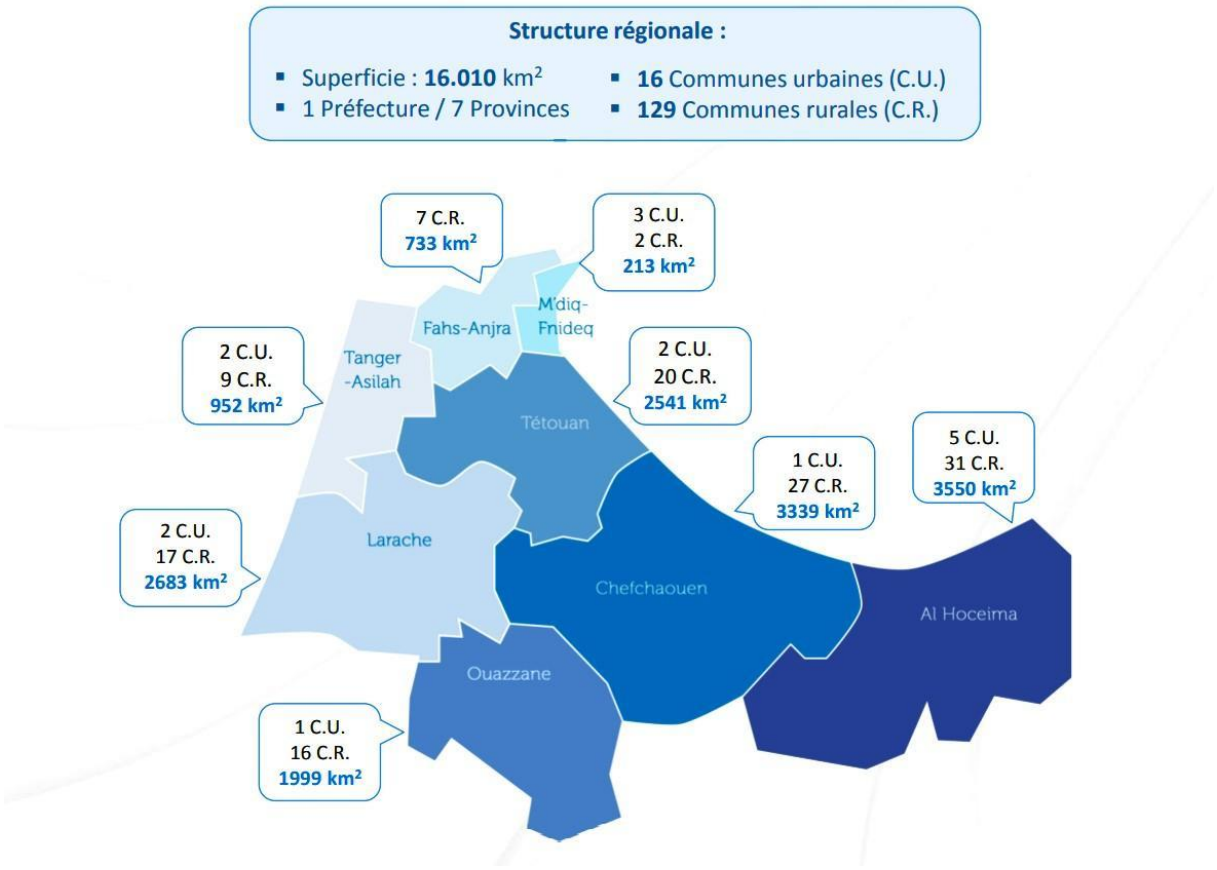
This work is taking place in the context of the Global Environment Facility (GEF) MedProgramme: Enhancing Environmental Security (2020-2024), implemented by the UNEP Mediterranean Action Plan (UNEP/MAP). Child Project 2.1 of the MedProgramme focuses on the issue of "Mediterranean Coastal Zones: Water Security, Climate Resilience and Habitat Protection". PAP/RAC, Plan Bleu/RAC, GWP-Med and UNESCO-IHP are the partners of Child Project 2.1, which aims, amongst others, to support the development of two Coastal Management Plans by PAP/RAC (called Regional Coastal Scheme in the case of TTA – TTA RCS), alongside one for Kotor Bay, Montenegro.

Furthermore, gender is a key topic for the MedProgramme. Indeed, there is a need to foster stakeholder participation to better understand the gendered and socio-economic aspects of adaptation solutions and support the formulation of an integrated management policy based on gender data, taking into account climate risks and environmental resources in the region. In this way, the project seeks to foster gender-sensitive leadership for climate adaptation and a more enabling environment, which are essential for gender-sensitive tools and approaches to be applied beyond the design phase of the adaptation planning process.

## 1.2 GENERAL DATA ON THE TANGIER-TETOUAN-AL HOCEIMA REGION

The TTA region covers an area of 17,262 km² and counts 3.5 million inhabitants, with a population density of 206 inhabitants per km² and a surface area representing 2.43% of the national territory. Located at the north-west tip of Morocco, it is bordered to the north by the Strait of Gibraltar and the Mediterranean, to the west by the Atlantic Ocean, to the south-west by the Rabat-Salé-Kénitra region, to the south by the Fez-Meknes region and to the east by the Oriental region. It should be noted that TTA is an important economic hub in Morocco, with one of the busiest container ports in Africa. It is also a very urbanised area. This region is extremely vulnerable to the impacts of climate change, especially Tetouan Province located on the east coast. The region counts two prefectures, Tangier-Assilah and M'Diq-Fnideq, and six provinces: Al Hoceima, Chefchaouen, Fahs-Anjra, Larache, Ouezzane and Tetouan. The capital of the region is the prefecture of Tangier-Assilah (Figure 1).

Figure 1. Tangier-Tetouan-Al Hoceima Region, Kingdom of Morocco




Source: Economic and Social Monograph (La Monographie Économique et Sociale) of the Tangier-Tetouan-Al Hoceima Region, CGEM Nord, 2020

## 1.3 CLIMATE OVERVIEW OF THE TTA REGION

Located at the meeting point between two seas on the northern tip of Morocco, the TTA has two coastlines and is characterised by extensive mountain rangers and medium altitudes. This biogeographical context is the reason for several different microclimates that characterise the region. Indeed, this variant of the Mediterranean climate is extremely heterogeneous for three reasons - altitude, latitude and the ocean. On the one hand, altitude conditions rainfall distribution, influenced by the dominance of disturbances associated with the Azores anticyclone. At the same time, slopes exposed to the westerly or south-westerly winds receive significant rainfall on the high peaks, while those facing east or southeast form semi-arid areas (400 mm of rainfall per year). However, the entire coastline is classified as humid or sub-humid.

In the sub-humid region, areas below 500m in altitude have an accentuated Meso-Mediterranean climate, with fewer than five dry months and over 700 mm of rain. In addition to the coastal plains, areas with steep or very hilly geomorphology cover more than 80% of the regional territory.

## 1.4 ENVIRONMENTAL ISSUES AND CHALLENGES

The region suffers mainly from problems related to the degradation of the environment and of terrestrial and marine natural resources and ecosystems. These issues are diverse and include land degradation, the pollution of ecosystems, groundwater and seawater, and deforestation. In recent decades, urban expansion and population growth have contributed to the discrepancy between housing supply and demand, the development of precarious and uncontrolled housing, and the spread of unregulated and unsanitary neighbourhoods. Rapid population growth has affected the ability of municipalities to monitor the quality of drinking water and other environmental aspects, to provide adequate sanitation services in emerging population centres and rural communities and to preserve the health of the environment. Soil, agricultural and natural areas are all under pressure, which is further exacerbated by urban expansion and the damage caused by unrestored abandoned quarries and the illegal exploitation of coastal dunes. These processes modify the profile of the coastline and are probably one of the causes of coastal erosion, alongside uncontrolled urbanisation of the coastline. The main causes of soil degradation in this region are highly erosive rainfall, wind erosion, a rugged topography, a shift to intensive agriculture, overgrazing, increased urbanisation, and salinisation due to intensive surface irrigation. In terms of natural areas and biodiversity, the region counts 22 Sites of Biological and Ecological Interest (SBEIs) across the region, including maritime, coastal, continental and wetland areas (Figure 2).

Figure 2. Distribution of existing Marine Protected Areas and other conservation and management measures in the Tangier-Tetouan-Al-Hoceima region


Source: Association AGIR, 2022

# 2 Workshop summary

## 2.1 PART 1: INTRODUCTION

The workshop was opened by Mr. Lhoussine Khidour, Director of the Regional Directorate of the Environment of the TTA Region (DRE-TTA), who emphasised the fact that this initiative will support the creation of the TTA-RCS and reaffirmed Morocco's and the DRE-TTA's readiness to support this initiative in order to contribute to the programme's success. Mr. Moulay Slimane Maliky (Directorate of Observation, Studies and Planning, Development Department, Rabat) also welcomed the participants, and reiterated the support of the Council to fully contribute to the development of the TTA-RCS. Mr. Ante Ivčević, Programme Officer at PAP/RAC then apologised on behalf of Ms. Zeljka Skaricic, Director of PAP/RAC, who was unfortunately unable to attend. He highlighted PAP/RAC's intention to support development of the TTA-RCS by identifying synergies between the different joint programmes of PAP/RAC, Plan Bleu/RAC and the various ongoing management plans led by Moroccan partners: the DRE TTA, the TTA Regional Council, alongside other national, regional and provincial institutions.

## 2.2 PART 2: EXPERT PRESENTATIONS

Mr. Abdelkader Allali, Independent Consultant and former Vice-President of the IPCC Working Group II-AR4, provided background information on greenhouse gas emission rates and mitigation efforts in Morocco. He highlighted the lack of expertise in certain areas, such as oceanography and database usage, and the need to strengthen the development of the circular economy while reducing TTA's carbon footprint.

Ms. Meriem Snoussi, PAP/RAC expert and Professor at Mohammed V University in Rabat, began by describing the context and the current situation of the coastline in TTA. The latter counts 146 protected areas, and its coastline comprises 9 coastal SBEIs, 3 RAMSAR sites, 3 parks including the only national park with a marine area (Al Hoceima National Park) and the Intercontinental Biosphere Reserve of the Mediterranean (IBRM). She said that the TTA-RCS must now make the most of the opportunity for "advanced" regionalisation to improve coastal governance and extend consultations to all stakeholders to strengthen cross-cutting and inter-sectoral management. She concluded that the RCS could provide regional planning with renewed impetus for the local implementation of public strategies and policies for sustainable coastal development in the medium and long term.

Mr. Ante Ivčević then presented the GEF MedProgramme, which will create synergies in support of the TTA-RCS by strengthening sustainability and climate resilience in coastal areas around the Mediterranean. Moreover, the TTA-RCS will complement other regional and national strategic plans that aim to advance sustainable coastal development and climate resilience through the involvement of key stakeholders. He also called on stakeholders to define clear and precise objectives for the integration of the TTA RCS into the governance system, referring to institutions, legal instruments, scientific expertise, information/education and the participation process, in collaboration with the TTA Regional Commission for Integrated Coastal Management.

Finally, Mr. Mohammed Amrani, Head of the Regional Observatory on Environment and Sustainable Development (DRE TTA) presented the TTA Regional Climate Plan. Morocco is a low emitter of GHGs, but vulnerable to climate change, and is strongly committed to addressing the challenges of climate change at the international level. As such, it can count on implementation tools that will be useful in developing the TTA RCS, including:

- indicators for climate change mitigation and resilience
- the TTA Territorial Climate Plan (planning and implementation of adaptation and mitigation measures and GHG emission trend analysis at the regional and sectoral levels)
- the Priority Adaptation Plan
- the Territorial Climate Plan. The GHG reductions envisaged under this action plan represent 30% of all GHG emission reductions between 2021-2030, in particular through the following objectives:

| Specific objective 1 | Specific objective 2 | Specific objective 3 | Specific objective 4 |
|---|---|---|---|
| Strengthen the preservation of the Region's natural resources and protected areas | Assess, prevent and reduce climate vulnerabilities and risks | Support the adaptation of key socio-economic activities to climate change | Ensure alignment to promote resilient development in the face of climate change |
| • Preserve water resources and anticipate use conflicts<br>• Preserve biodiversity and ecosystems to maintain ecosystem services<br>• Enhance and revitalise the Region's protected sites | • Reduce the vulnerability of the health sector to climate change<br>• Support community-based adaptation, resilience and gender equality<br>• Better take climate change into account in the Housing and Urban Policy sectors throughout the region | Support the adaptation of:<br>• agricultural<br>• activities<br>• fishing and aquaculture activities<br>• forestry activities<br>• industrial activities to climate change | Reduce the risk of natural disasters |

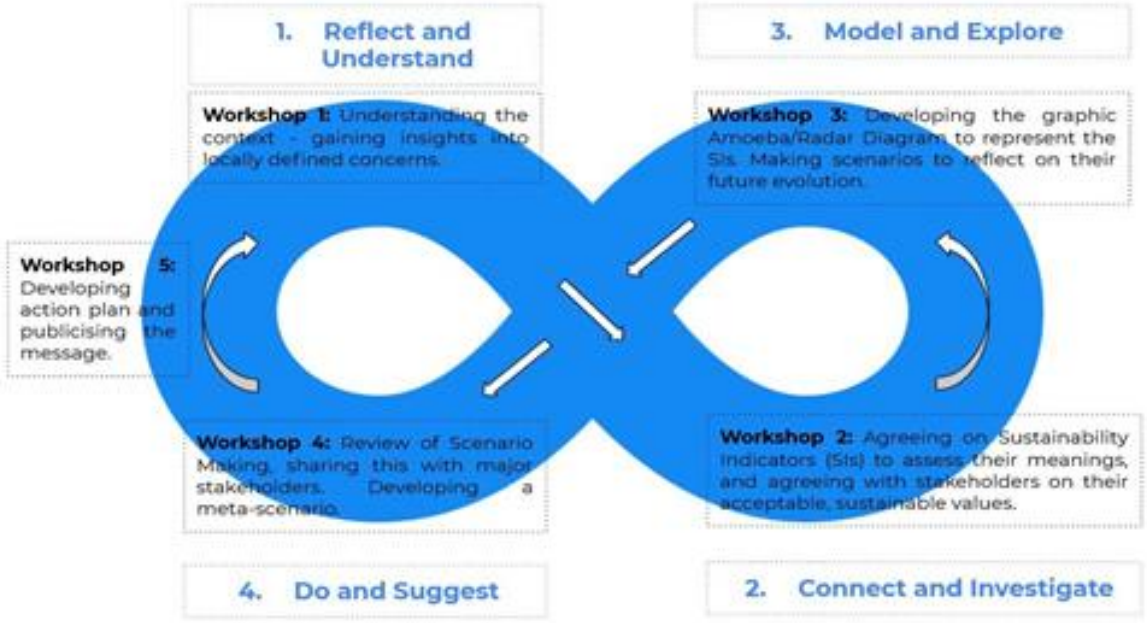
# 3 CLIMAGINE WORKSHOP

Mr. Michael Karner, Project Manager at Plan Bleu/RAC, presented the expected contributions of the Climagine methodology to the TTA-RCS. This environmental foresight approach aims to create a horizontal and participatory platform for reflection involving stakeholders from different sectors working at various levels. In this sense, every Climagine participant is an "expert at their level" and contributes to collectively creating an inclusive space for discussion and knowledge sharing.

Within the MedProgramme, Climagine is currently being implemented in TTA and Kotor Bay, Montenegro. At both sites, this series of four workshops (2021-2023) aims to inform the development of regional coastal plans, led by PAP/RAC in collaboration with regional and national partners in both countries. This work is based on previous Climagine experiences in Šibenik-Knin County (Croatia) and in the Kerkennah Islands (Tunisia) between 2013 and 2015, as part of the ClimVAR Project (MedPartnership). Moreover, the MedProgramme SCCF Project is feeding into Climagine through its focus on climate change adaptation in coastal zones, including the production of gender-sensitive climate risk assessments for both coastal hotspots (June 2022), a Climagine workshop to identify coastal adaptation solutions and submit them to economic and multi-criteria analyses. The SCCF Project also aims to build capacity on using climate risk assessments and ecosystem-based adaptation in coastal zones, and also to stimulate the engagement of private and financial sector stakeholders to support coastal zone adaptation in TTA and in Kotor Bay.

Houssine Nibani, Plan Bleu Consultant and Director of the AGIR Association, explained that the Climagine participatory method establishes a common vision by collectively describing, assessing and examining the past, present and future of sustainability in a defined area. In doing so, it allows for specific challenges associated with climate variability and climate change in coastal zones to be taken into account in ICZM processes.

Figure 3. The 5 stages of Climagine




Climagine seeks to ensure that local knowledge, preferences and solutions are integrated into planning documents, thereby supporting participatory governance between stakeholders and decision-makers. It also defines coherent and SMART (Specific, Measurable, Achievable, Relevant and Time-based) goals for indicators to monitor the sustainability of the socio-ecosystem. Finally, it develops iterative and priority-based strategic plans based on sectoral objectives in order to rank actions aiming at reducing human- or climate change impacts and threats. These actions are then broadly assessed through the participatory establishment of quantitative and qualitative Sustainability Indicators, that in turn serve to establish a Band of Equilibrium of minimum and maximum threshold values. Climagine therefore promotes ownership of the coastal plan development process by engaging stakeholders from all sectors and levels, thus facilitating the ICZM implementation and adaptation policies based on the contextualised political, legal, socio-economic, governance and gender aspects of the TTA Region and its 6 provinces.

This first Moroccan TTA Climagine workshop thus aimed to lay the groundwork to feed into the TTA-RCS by establishing the local context and agreeing on the priority challenges that characterise the TTA region. The stakeholders came from varied backgrounds (see Annexes), and were first divided into 7 working groups. The groups began by identifying sustainability dimensions that are key to TTA by mapping the challenges, problems, solutions and opportunities within the coastal area, using a map of TTA. This mapping exercise helped each group to formulate their own sustainability vision of the region in 2050 by analysing the coast's past and present. Participants drew on their professional, institutional and personal experience and knowledge to develop visions of sustainability, agree on the key dimensions to take into account and identify key issues and problems. In this way, the groups were able to:

- Define sustainability visions and dimensions of the region;
- Identify the coastal zone's main challenges and problems;
- Prioritise and rank the main challenges and issues identified, grouped under general themes;
- Discuss major challenges and selected key actions for addressing them;
- Take note of data availability for the selected actions/solutions;
- Identify missing stakeholders to be included in the TTA Climagine process;
- Illustrate that local knowledge and experience are essential for participants to develop a sense of ownership and collective purpose throughout the process.

## 3.1 PART 1: SUMMARY OF THE GROUPS' FINDINGS

The tables below summaries the results of the Climagine workshop.

**GROUP 2**
**Sustainability Vision:** "TTA Region: a region of land and sea, of green and blue."

**Key challenges**

- **Energy:** pressures and challenges due to the impacts of climate change (production, consumption, supply networks)
- **Environment:** conflicts of use (pressure on the region's fertile areas), pressure on natural resources (water/land/forests, etc.)
- **Urban spaces and territorial cohesion:** importance of the living environment, degradation of the urban space, unhealthy urban living conditions (e.g., national programmes such as "Cities without Slums" and "Dangerous Buildings"), urban sprawl and rural areas in decline
- **Mobility**
- **Pollution**

**Priority actions**

- **Agriculture:** increase the sustainability of extensive and intensive agriculture, develop the organic farming sector
- **Economy:** integrate industry with the in-person economy in order to better absorb crises and shocks
- **Blue Economy:** play on the complementarity and synergies between different functions and opportunities (e.g. Tanger-Med Port)
- **Energy:** reduce the excessive use of firewood which causes deforestation, soil erosion and ecosystem degradation, develop renewable energy sources (wind energy)
- **Governance:** integrate planning tools to promote sustainability and the emergence of a regional development model (SMART indicators), planning and urban renewal (e.g., Tanger Med Special Agency)
- **Nature:** increase natural areas and promote the region's SIBEs
- **Tourism:** encourage a different kind of tourism: eco-tourism and integrate tourism with local culture
- **Rural areas:** promote rural areas (e.g., Emerging Rural Centres - CREM) and encourage the integration of traditional agricultural and architectural knowledge, techniques and practices

**GROUP 3**
**Sustainability Vision:** "TTA Region: a water reservoir"

**Key challenges**

- **Climate change**
- **Population growth**
- **Industrial development**
- **Water:** overexploitation of groundwater, water pollution, soil erosion and silting of artificial reservoirs, vulnerability to flooding
- **Environment and ecosystems:** pollution, deforestation, degradation of wetlands
- **Urban areas:** high pressure from urban development

**Priority actions**

- Restore and preserve the state of rivers and associated environments and the quality of water resources
- Climate change adaptation and mitigation
- Develop specific management policies at catchment area level and integrate water issues into land use planning policies
- Capacity building, education and awareness programme for water and environmental issues as well as industrial and domestic pollution control

**GROUP 4**

**Sustainability Vision:** "A TTA region that is economically developed, environmentally protected, sustainably managed, socially equitable and resilient to climate change."

**Key challenges**

- **Agriculture:** overexploitation of agricultural land, uncontrolled use of chemical fertilisers and pesticides in agricultural plots and consequences on water and ecosystems, degradation and contamination of soil and groundwater
- **Climate change:** multi-sectoral impacts
- **Water:** illegal extraction of groundwater for irrigation, contamination of groundwater tables, spread of water-borne diseases, insufficient sanitation and wastewater treatment, pollution of the environment and aquatic ecosystems
- **Energy:** promote use of new renewable energy sources
- **Ecosystems:** overexploitation of natural resources (fish and water resources, deforestation and loss of forests)
- **Coast:** disfigurement of the coastline and sand theft
- **Pollution:** industrial pollution of bathing areas and degradation of air quality
- **Society:** rural exodus, social and gender inequalities, illiteracy, poverty, urban/rural contrasts, spread of the informal sector, physical and social vulnerability
- **Urbanisation:** multiplication of industrial zones, unsanitary housing
- **Governance:** non-enforcement of the law

**Priority actions**

**1. Institutions and governance**

- Create the Regional Commission for Integrated Coastal Zone Management Tangier-Tetouan Al-Hoceima (CRGIL/TTA) by decree and the House of Climate and Sustainable Development in Tangier.

**2. Socio-economic issues**

- Support agriculture (e.g., Generation Green 2020-2030)
- Develop the blue economy (e.g., Halieutis Strategy 2020-2030), develop sustainable aquaculture, support port activities (e.g., Tanger-Med port), promote seaside eco-tourism

**3. Environmental issues**

- **Agriculture:** control the use of chemical fertilisers and pesticides in agricultural plots
- **Climate change:** accelerate adaptation and mitigation measures
- **Water:** Limit and control extraction in aquifers that directly affect the natural lakes
- **Waste:** recycling, reuse of wastewater after treatment and ensure geographically fair liquid and solid waste treatment.
- **Coast:** preserve fish resources, regulate maritime traffic. The coastline is not fixed but is constantly moving. We need to act with this in mind.
- **Biodiversity protection:** conserve and restore fauna, flora, wetlands, SIBEs and the Intercontinental Biosphere Reserve of the Mediterranean
- **Pollution:** reduce industrial and domestic waste (air, water, soil, coastal)

**4. Socio-demographic and cultural issues**

- Launch a capacity-building, awareness-raising and educational programme on the challenges above ● Strengthen health monitoring
- Provide entertainment and recreation

**5. Financial issues**

- Adopt innovative fiscal instruments to address challenges
- Develop international fundraising and cooperation
- Encourage public-private partnerships

**GROUP 6**

**Sustainability Vision:** "A TTA region resilient to the hazards of climate change and anthropogenic pollution, with a developed and eco-designed coastline."

**Key challenges**

- **Climate change:** impacts on agriculture and coastal and marine ecosystems
- **Pollution:** soil and water pollution, industrial pollution
- **Soil:** erosion and silting of artificial reservoirs, vulnerability to flooding, etc.

**Priority actions**

- **Conservation:** future Jbel Moussa MPA - importance of taking into account small scale, artisanal fishermen's perceptions on future MPAs
- **Water:** increase sanitation and wastewater treatment, protect catchment areas upstream of dams from erosion, safeguard springs

**GROUP 7**

**Sustainability Vision:** "A healthy and sustainable TTA region."

**Key challenges**

- Unsustainable agriculture, use of pesticides
- **Mining**: unsustainable mining, overexploitation of resources, sand extraction
- **Water:** overexploitation of groundwater and water resources
- **Landslides**
- **Coast:** sand extraction, overexploitation and resulting scarcity of fish resources
- **Pollution:** marine pollution (e.g., around the Tangier-Med port)
- **Informal sector**
- **Society:** high unemployment rates

**Priority actions**

- Improve education, training, health and social security systems
- Encourage sustainable logistics and tourism, innovative industry, sustainable fishing
- Renewable energies: promote wind and solar energy
- Protect and restore land and marine ecosystems

**GROUP 8**

**Sustainability Vision:** "Coastal territorial justice and sustainable and fair socio-economic development."

**Key challenges**

- **Agriculture:** in decline due to urban sprawl
- **Obstacles relating to land ownership:** difficulties in land acquisition and long-term use (land disputes/unregistered land)
- **Climate change:** vulnerability to impacts
- **Education:** school enrolment rates in decline and illiteracy
- **Energy:** high energy costs
- **Funding:** difficulties experienced in raising funds
- **Inequalities and disparities:** economic, social, gender, and spatial between urban and rural areas and between the coast and the hinterland
- **Coast:** urban- and tourism-related pressures: spread of illegal housing along the coastline, environmentally destructive seaside tourism, degraded urban landscape along the coastline
- **Pollution:** insufficient wastewater sanitation, leading to pollution and environmental degradation

- **Tourism:** residential tourism prevents the development of a real tourism dynamic, seasonality of seaside tourism

**Priority actions**

- Develop **a social and inclusive economy**, especially in the hinterland to inhibit rural exodus
- Reduce the **ecological footprint** of TTA and limit the overexploitation of its resources
- Mainstream access to **water and sanitation**
- **Mining and quarrying**: implement more stringent regulations
- **Industry:** encourage green growth and move towards industry 4.0, support the establishment of a sustainable automotive industry
- **Infrastructure**: strengthen basic infrastructure and strategic planning at the regional level, work towards more coherence and consistency between regional stakeholders, develop road networks and the logistics sector
- Strengthen **territorial justice and equity**
- **Planning:** strengthen strategic planning at a regional level to reinforce the coherence and consistency of urban planning documents

**GROUP 9**

**Sustainability Vision:** "By 2040, we want to have an economically developed coastline that preserves cultural and natural heritage and provides a pleasant living environment for future generations."

**Key challenges**

- **Biodiversity:** degradation of ecosystems
- **Climate change and overexploitation of resources**
- **Territorial and social cohesion:** poverty, disparities, social equity, territorial injustice and rural exodus
- **Pollution:** increase in industrial waste
- **Urbanisation**

**Priority actions**

- **Manage conflicts of interest**
- Strike a balance between the economy and the environment: promote **green growth**
- Adopt **participatory, multi-sectoral and people-centred approaches**
- Improve access to **sanitation** and safe access to **drinking water**
- Good **governance** of fishing products and promote marine resources and products, preserve portuary heritage
- **Recycling**
- Improve **living conditions**, especially for rural communities and women, and encourage social justice
- (housing, health, education)
- Encourage responsible tourism while improving access to recreational activities

Other measures mentioned during the plenary discussions were to:

- Achieve water savings through drip irrigation systems and integrate renewable energy sources into irrigation systems (e.g., solar pumps);
- Improve rural sanitation to reuse treated wastewater for watering green spaces;
- Re-inject treated wastewater into coastal aquifers used for irrigation;
- Decrease the use of equipment that runs on electricity or butane gas, and encourage households to adopt solar thermal systems to produce domestic hot water;
- Limit and control extraction from aquifers that directly affect natural lakes;
- Protect catchment streams upstream of dams from erosion;
- Excessive energy use for irrigation due to a national butane gas subsidy[1]. However, deforestation could be a possible consequence of the removal of the butane gas subsidy;
- Irrigation with gas pumps and extraction beyond depths of 100 m weakens the aquifers;
- Desalination of seawater using solar energy, which is already planned for TTA.

[1] In Morocco, the government's system of subsidising the sale prices of petroleum products and certain agricultural products has protected the population and the national production system from erratic price changes for these products on the international market in recent years, thereby helping to increase the population's purchasing power and social stability.

# 4 Conclusion and next steps

Throughout the workshop, the Climagine groups were able to identify similar challenges and gaps, particularly those related to environmental protection, unsustainable land and sea transportation, inadequate infrastructure, the need for education and awareness-raising, the need for legislation and restrictions on urbanisation and construction, and the informal economy.

Pronounced West-East gradients were identified, which present significant contrasts in the socio-ecosystem of TTA, particularly in terms of wealth distribution. These gradients are reflected in the living standards and well-being of TTA's populations, which themselves are subject to major contrasts in terms of their access to natural resources and socio-economic disparities depending on these land/sea gradients. Development plan proposals already include alternative socio-economic models that take into account the specificities of these provinces' regions, in order to help change conditions and improve development and the state of the environmental/cultural and historical heritage of the TTA, with a single common denominator: education and awareness-raising. The second Climagine workshop will draw on the work of experts and partner organisations to translate these aspects of sustainability into a list of quantitative and qualitative indicators, which will be submitted to stakeholders in the TTA region in the second half of 2022.

# 5 Annexes

## 5.1 LIST OF PARTICIPANTS

| Surname | First name | Function | Organisation |
|---|---|---|---|
| Aderghal | Sonia | Chargée de suivi des projets touristiques | Délégation du tourisme de Tétouan |
| Ait Lassri | Naima | Architecte | Agence urbaine de Tétouan |
| Ajrhaou | Jemaa | Chef de Service | Agence urbaine de Tanger |
| Alahayane | Nada | Ingénieur | Direction régionale de l'environnement, Région TTA |
| Alami | Nissrin | | Inspection régionale de l'urbanisme et de l'aménagement du territoire |
| Allali | Abdelkader | Consultant CAR/PAP | Consultant indépendant, Maroc |
| Allouch | Rajae | SEGR | Province de Tétouan |
| Amrani | Mohammed | Chef du Service Observatoire | Direction régionale de l'environnement, Région TTA |
| Arrifi | Abdelkhalek | Chef du service d'études générales | Agence urbaine Al Hoceima |
| Azeddine | Izen | Responsable dossiers aménagement et promotion de l'investissement | Délégation du tourisme de Tanger |
| Batmi | Abdeladim | Chef du Centre provincial de Tanger | Direction générale de la météorologie du Nord-ouest |
| Bouya | Rachid | Directeur de Projets | Société d'aménagement pour la reconversion de la zone portuaire de Tanger Ville (SAPT) |
| Bouziane | Hicham | Chef de division du développement territorial et aménagement du territoire | Conseil régional, Région TTA |
| Budasdit | Abderrachid | Chef du service de l'environnement | Secrétariat général, Province d'Al Hoceima |
| Chabouni | Aziz | Directeur planification et stratégie | Agence de développement du Nord (APDN) |
| Chakri | Said | Coordinateur national | L'Alliance Marocaine pour le Climat et le Développement Durable |
| Damghi | Asmaa | Coordinatrice de projet | Association AGIR |

| | | | |
|---|---|---|---|
| Derdabi | Mohamed Rida | Délégation des pêches maritimes de Mni'q | Responsable du site de pêche |
| Edderyouch | Abderrahim | Ingénieur d'état principal | Délégation du commerce et de l'industrie |
| El Hadine | Abdelilah | Chef de division veille et planification stratégique et territoriale | Chef de division veille et planification stratégique et territoriale |
| El Haoulani | Aiman | Chef de la cellule portuaire et maritime | Direction régionale de l'équipement et de l'eau |
| El Kassimi | Driss | Gendarmerie royale - Brigade environnement | Gendarmerie royale - Brigade environnement |
| El Khamkhami | Abdelmounim | Chef de division des études hydrauliques | Amendis -Tétouan |
| Elkhou | Asmaa | Chargée de dossier SRL | Wilaya de la Région TTA |
| Ghassa | Abdessamad | Chef Service Aménagement Travaux Assainissement | Office national de l'électricité et l'eau potable - branche eau |
| Hamdaoui | Mounia | Représentante de la Direction des Programmes et des Réactions | Ministère de la Transition Energétique et du développement durable |
| Haybout | Hajar | Représentante de la Direction centrale des Changements Climatiques, de l'Economie Verte et de la Biodiversité | Ministère de la Transition Energétique et du développement durable |
| Hmeid | Nabil | Chef de la division d'urbanisme | Province de Larache |
| Ibjemahif | Houssnia | Chef de Service | Agence urbaine de Tanger |
| Ivcevic | Ante | Programme Officer | CAR/PAP, Split |
| Jahid | Asmaa | Chef de service des plans d'aménagement | Agence nationale pour le développement de l'aquaculture |
| Karner | Michael | Chargé de projet | CAR/PB, Marseille |
| Karrouk | Somaya | Représentante | Association Abtal Fnideq |
| Kasmi | Houcine | Représentant le Direction centrale du Partenariat, de la Communication et de la Coopération | Ministère de la Transition Energétique et du développement durable |
| Khidour | Lhouissaine | Directeur | Direction régionale de l'environnement, Région TTA |
| Laasri | Bouchra | Chef de service | Agence nationale des ports |
| Lafrem | Salah | Officier de service | Office national des pêches |
| M'Gafri | Hakima | Point focal santé-environnement | Direction régionale de la santé |

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| Maliki | Slimane | Représentant de la Direction Centrale de l'Observation, des Etudes et de Planification | Ministère de la Transition Energétique et du développement durable |
| Malouli Idrissi | Mohammed | Chef | Centre régional de l'Institut National de Recherche Halieutique |
| Nibani | Houssine | Consultant Plan Bleu | Association AGIR |
| Qostal | Oussama | Cadre à la DPM de Jebha | Délégation des pêches maritimes de Jebha |
| Raddad | Najib | Chef du service de sécurité | Délégation des pêches maritimes |
| Serraj | Najat | OREDD TTA | Direction régionale de l'environnement, Région TTA |
| Snoussi | Maria | Consultante CAR/PAP | Université Mohammed V |
| Yahyaoui | Abdelmajid | Chef de service | Gestion des Risques Naturels et de l'Environnement (Préfecture de M'diq-Fnideq) |

## 5.2 LIST OF THE MISSING STAKEHOLDERS IDENTIFIED

- Marine Royale
- Marine marchande
- Système de Surveillance et d'Aide à la Navigation Maritime dans le Détroit de Gibraltar (VTS) - Centre de Surveillance du Trafic Maritime à Tanger