



Intervention of Commander Ezzeddine Kacem

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THE BLUE BIOECONOMY IN THE MED SOUTHERN SHORE

- The blue bioeconomy has a central place in responses to global challenges: climate change, sustainable development, food security, but also in responses to local challenges with a balanced territorial development of coastal and rural communities. It is likely to sustainably meet food needs and part of the material and energy needs. Aware of this reality, the CMT is committed through its actions and its members to publicize and promote the field of the blue bioeconomy. Furthermore, aware of the importance of regional cooperation as a step towards international awareness, the Cluster is a Member of the B-Blue project and will implement several actions to promote the main results of this project.
- The contribution of the CMT will be made on the basis of several actions in the form of 4 different poles, necessary to make known, promote and implement the results of



the B-Blue project. These are the poles: Consolidate training / Support the private sector / Improve governance / Strengthen cooperation

The ultimate objective of these actions is to deepen knowledge of the blue bioeconomy and to encourage openness to the sea in order to guarantee the conservation and sustainable use of the sea.

Pole 1: Consolidate training:

Knowledge of the bioeconomy in general and of biotechnological solutions in particular is lacking, in Tunisia and elsewhere. The necessary prerequisite is therefore to make this field and the opportunities it offers known, both to employees and employees of the maritime sectors and to the general public.

This objective could be achieved in several ways:

- Improve the quality of training for students in the maritime sectors. This could be achieved by shedding light on the blue economy via, for example, the insertion of a chapter, or a module on the blue bioeconomy and the openings it offers and in order to understand and mastering the environmental, economic and social impacts of the blue bioeconomy.
- Organize training sessions for the benefit of company employees and government officials with the aim of raising awareness of the advantages of the blue bioeconomy and offering opportunities for integrating the subject into the development strategies of these structures.
- Organize "job meetings" led by professionals from the bioeconomy sectors in order to attract young people to careers in the sea. These professionals will have the task of explaining how their job works, being part of one of the pathways of the blue bioeconomy and the economic and environmental opportunities it offers. This will also contribute to developing knowledge about companies in the sector.
- Call via seminars or other scientific events for the feminization of maritime professions.
- Facilitate the sharing of knowledge and best practices and thus strengthen the impact and scope of the solutions found through meetings between professionals from the different partner countries.



- Finally, given the lack of ownership of the “blue bioeconomy” theme, this sector should be highlighted for the general public. It is therefore necessary to organize awareness-raising sessions aimed at young people, in particular, through activities such as themed exhibitions in schools and colleges, short interventions during school hours, etc. Specific training on “Marine Resources” could be integrated into the school curriculum.

The implementation of all these actions can be ensured thanks to joint training sessions, led by experts from the various project partners. The exchange of knowledge and expertise is a sure source of knowledge and development

Pole 2: Supporting the private sector:

The importance of the private sector for the development of the blue bioeconomy is undeniable.

Support for private companies operating in the various sectors of the bioeconomy could be achieved through several initiatives:

- Set up a support and accompaniment structure adapted to companies from the creation phase to the concrete achievement of the company's objectives. Support for companies can be financial (subsidies, tax incentives, facilitated loans, etc.) but also support for actors in scientific and technological innovation.
- Promote the active involvement of professional structures in the development of the blue bioeconomy, which will contribute to the economic balance of companies.
- More specifically, the fisheries and aquaculture sectors represent activities of some importance in Tunisia and generate more than 50,000 direct jobs. It is now necessary to move towards sustainable fishing and promote the development of aquaculture to protect resources and guarantee better quality seafood products. The exchange of expertise with project partners on this topic would be a plus.

Pole 3: Improve Governance:

Faced with the lack of consideration of the blue bioeconomy by the administration, and the absence of a national policy in this area, the CMT wishes to develop a citizen dynamic to encourage stakeholders to feel more concerned by the blue bioeconomy.



Concrete demands will be the subject of the call for state intervention. It would be about:

- Create a transversal institutional approach to the blue bioeconomy in the form of an interministerial strategy. Thus, the blue bioeconomy will integrate the development plan of the Ministry of Agriculture, Water Resources and Maritime Fisheries, the Ministry of Economy and Planning and others. This will make it possible to develop coherence and collaboration between the different levels of governance.
- Strengthen vertical coordination between all links in the sectors: producers, industrialists, research, innovation
- Support and accelerate the energy transition of fishing vessels in order to avoid excessive energy dependence which weakens the sector and pollutes the sea.
- Strengthen the mechanisms for the prevention and control of illegal fishing.
- Remove the obstacles to the development of aquaculture and support new projects.

Pole 4: Strengthen cooperation:

The emphasis placed on cooperation between the project partners, particularly in the “Consolidating training” and “Supporting the private sector” poles, must be a sure value of the CMT’s action throughout the project. Scientific and technical cooperation between all stakeholders can only strengthen the expected results.

Also, the strengthening of collaboration at the level of regions and national organizations with the construction of a “blue bioeconomy” sector seems essential.

Developing countries, particularly on the southern shore of the Mediterranean, will be faced with a series of social, economic and environmental challenges over the next two decades. Driven by rising incomes, particularly in North African countries, the demand for medical care, agricultural products, forestry products and fish products will increase. At the same time, many of the ecosystems around which human societies are structured around the world are overexploited and unsustainable. Climate change could amplify these environmental problems by adversely affecting water resources and increasing the frequency of droughts.

Biotechnology offers technical solutions that solve many health and resource problems facing the world. The application of these biotechnologies to primary



production, health and industry is likely to give rise to a "bioeconomy", i.e. a system in which biotechnologies will ensure a substantial part of the economic output. By 2030, the bioeconomy will likely rely on three pillars: in-depth knowledge of genes and complex cellular processes, renewable biomass, and sectoral integration of biotechnology applications. Evidence and characteristics of biotechnology innovation to provide an idea of what the bioeconomy could look like by 2030. Solutions also present a framework for action to help put biotechnology to work for today's challenges and future in the countries of the southern Mediterranean in the framework of PPP and such as social, economic and technological incentives will create new outlets for biotechnologies, which will require new types of economic models. The main models at work so far have been that of the small biotech company that does research and sells its knowledge to large corporations.

Several factors will boost the bioeconomy by creating the right conditions for investment. One of the most important will be the increase in population and per capita income, especially in developing countries. These countries will provide 97% of population growth which should bring the world population to 8.3 billion people in 2030. GDP is expected to grow by 4.6% per year in developing countries, and by 2.3% in developed countries. OECD.

This growth in population and income, combined with rapid progress in educational performance in China and India, suggests not only that the bioeconomy will be global, but that the main biotechnology markets for both primary production (agriculture, forestry and fisheries) than for industry could be in developing countries. Rising energy demand, especially if combined with measures to reduce greenhouse gas emissions, could create large markets for biofuels and biofuels.

Thank you for your attention.



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