switchmed

Funded by the European Union

Blue Economy industries

Improving the sustainability of the seafood, fish and aquaculture value chain in Tunisia and Morocco

The importance of a Blue Economy for the Mediterranean region

The Mediterranean Sea has for centuries enabled trade and provided resources for the growing populations of the region. Economic activities stemming from the ocean, sea and the coast play an increasingly important role in the region's development. In 2016, the tourism sector in Algeria, Egypt, Libya, Morocco and Tunisia contributed alone 9.7% to the regional GDP - a figure that is expected to grow.

To ensure that economic activities from marine regions do not negatively impact ecosystems and livelihoods, the Blue Economy concept seeks to manage a sustainable transformation of associated economic sectors to maintain and increase their value over time while supporting further job creation.

Since 2014, the EU-funded SwitchMed programme has in eight countries of the Mediterranean demonstrated the potential of Circular Economy practices as an effective approach to support resource efficiency, innovative business models and in reducing the environmental footprint from various economic activities.

With the support from the European Commission Directorate-General for Maritime Affairs (DG Mare), the second phase of SwitchMed will extend Circular Economy principles to businesses under a Blue Economy component. This component will demonstrate and promote principles of sustainable consumption and production in key economic sectors in line with the 'Blue Growth' strategy of the European Union and support the adoption of best Blue Economy business practices in the Mediterranean region.

Blue Economy industries in the scope of the SwitchMed programme

Under the SwitchMed Blue Economy component, the United Nations Industrial Development Organization (UNIDO) will introduce resource-efficient and circular production practices to industries from the seafood/fish processing and aquaculture sectors.

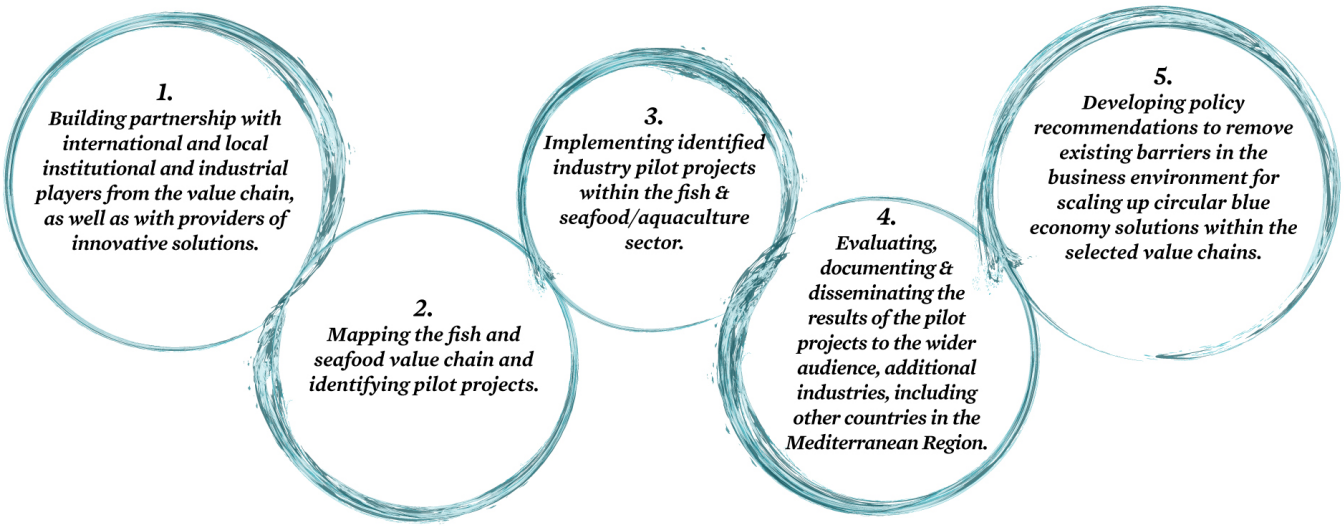
The Union for the Mediterranean (UfM) report on Blue Economy in the Mediterranean, states that; *"fisheries and aquaculture industry in the Mediterranean Sea is the third most important Blue Economy sector in socio-economic terms after tourism and maritime transport."*

Growing global demand in seafood and fish products increases the pressure on the marine ecosystem and both the seafood and fish processing sectors contribute significantly to marine pollution. The seafood/fish processing and aquaculture sectors need more efficient practices that can support an economically viable and ecologically stable industry.

UNIDO will lead pilot activities in Tunisia and Morocco to demonstrate how to improve the seafood and fish processing value chain's circularity and develop the aquaculture sector to adopt practices that can ensure a sustainable supply of seafood and fish from the Mediterranean. Pilot projects from both sectors will illustrate how Circular Economy practices can contribute to a resilient Blue Economy and eventually share the experiences with other countries in the Mediterranean.

Objectives of the UNIDO Blue Economy projects

- Demonstrate the business case for resource efficiency in the fish/seafood processing industry using the UNIDO TEST methodology;
- Promote better valorization of fish and seafood value chain into by-products, including the use of innovative technologies;
- Share best practices and solutions, promoting business partnerships and investments to improve the environmental and economic performance of the aquaculture industry;
- Explore the potential for establishing circular business models to up-cycle fishing equipment (both for fishing and aquaculture) to reduce marine plastic pollution.



Morocco - Improving the value chain of the seafood and fish processing sector

The fish and seafood processing industry hold an important role in the Moroccan economy. Annually, more than 400 businesses support the transformation of 1.5 million tonnes of fish. However, the sector faces concerns related to low efficiency and insufficient environmental standards.

As demonstrated in the first phase of SwitchMed, the fish processing industry is operating below international benchmarks with significant saving potential in energy and water consumption. Also, the sector is characterized by high raw material wastage, accounting for up to 50-60% in fish and seafood processing input, showing the significant potential for waste valorization.

Introducing better standards for energy, water and raw material consumption (valorization of organic waste into fish meal, fish oil or protein extraction) could decrease the wastage of valuable raw-materials and increase profitability with new business opportunities for the fish and seafood processing industry in Morocco.

Under the SwitchMed Blue Economy component in Morocco, UNIDO will:

- Conduct a value chain analysis to estimate the potential to valorize fish and seafood waste by type, sub-sector and present infrastructures;
- Engage key stakeholders, including government institutions, the private sector and associations of producers to form partnerships for adopting circular production standards in the fish and seafood processing value chain;
- Implement pilot projects in the value chain of fish and seafood processing to demonstrate the uptake of resource-efficiency and improve waste valorization.

Tunisia - Supporting a sustainable aquaculture industry

Aquafarming in Tunisia is a growing and promising sector. The government of Tunisia seeks to further this sector to reach 60,000 tonnes/year by 2030. Currently, the production levels are about 22,000 tonnes, accounting for almost 17% percent of Tunisia's total fish production with approximately more than 50 active farms.

While aquaculture has many positive impacts on food security and the conservation of wild fisheries, it can also pose serious environmental risks, such as plastic marine litter and the build-up of nutrients and effluents below the cages on the seafloor. The waste from the fish farming can lead to potential algal blooms and the depletion of oxygen near the aquaculture cages, which can have harmful impacts on the local ecosystem and lead to anoxic zones.

Ensuring the economic and environmental sustainability of the sector can be aided by adopting innovative SMART systems based on sensor technology; switching to alternative feed sources and advanced feeding systems; integration of hatcheries and species diversification; valorization of second quality by-products and traceability systems to access new green markets; adoption of Multi-Trophic Aquaculture innovative systems.

Under the SwitchMed Blue Economy component in Tunisia, UNIDO will:

- Conduct a value chain analysis to assess the sustainability of aquaculture value chain in Tunisia and potential areas for improvement;
- Prepare a catalogue of SMART technologies that can be transferred based on the existing technological baseline in the country and survey of the sector;
- Identify potential pilot projects in the value chain of the aquaculture industry to demonstrate the uptake of resource-efficiency and improve circularity.

For more information visit SwitchMed.eu or contact:

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