Circular economy in industrial port territories: case of Dunkirk, France

Summary

The model of the circular economy brings about a profound transformation in the traditional way of doing business and exploiting resources. While many researches are interested in the role that the circular economy can play in territorial development, the territories studied are generally cities or even rural regions but more rarely on ports regions (Veyssière et al.,2020). In our case, we put our attention in industrial port territories and the way in which the circular economy can constitute a new economic model. We put forward the double relationship possibility between industrial port territories and the circular economy (Andriamanantena et al., 2020). Firstly, industrial port territories can be relevant territories for the development of activities linked to the circular economy (the existence of a dense industrial fabric and land reserves; traffic nodes, flows etc.) and secondly, the circular economy could serve as a development lever for industrial port territories (enterprises can gain from external economies of scale, the emergence of innovations, economic diversification etc.)
Our research question is as follow: How can circular economy constitute a new economic model in an industrial port territory and create value through innovation and lead to the creation of "circular innovation ecosystem"?

In our case, the creation of value for a circular economy project at the scale of a territory requires the consideration of all the actors present within the concerned territory. The concept of an innovation ecosystem which emphasizes the relationships between the different actors to create value through innovation could therefore make it possible to measure the value creation of the circular economy at the territorial level (Granstrand & Holgersson, 2020; Jackson, 2011; Nambisan & Baron, 2013). So, we rely both on a theoretical work of association between the concepts of circular economy and innovation ecosystem, by applying it to the case of industrial port territories.
Our research field can be divided into two parts. First we apply our theoretical framework to the case of Dunkerque which will be considered as our reference case. We chose Dunkirk because it is currently the 3rd largest French commercial port and ranked 7th in the North European Range which stretches from Le Havre to Hamburg (Port de Dunkerque, 2021 – official port website). Dunkirk is also the French pioneer of industrial ecology (which is one of the pillars of the circular economy according to ADEME agency and also the typical example of a circular economy project in an industrial port) in which industrial ecology practices started in the 1980s around the USINOR plant (now ArcelorMittal) established in 1960s (Kasmi, 2018).
The second part of our research consists in comparing the results obtained in Dunkirk with the industrial port territory of North sea port in Netherlands and Belgium. The choice of this port to study is based on the characteristics of Dunkirk. The aim is to benchmark the most similar port possible in terms of activities and size in order to draw good practices in terms of circular economy while highlighting their replicability and adaptability in industrial port territories in general.
This work will also help to set the foundations for the definition of what can be an innovation ecosystem based on the circular economy or "circular innovation ecosystems" in the case of industrial port territories. The results will highlight the degree of reconversion of the industrial port territory of Dunkirk toward more circularity, while the comparison emphasize the entrepreneurial dynamics moved by the adoption of circular economy projects, recommendations about the limitations and the opportunities created that may benefit industrial port territories will also be discussed.