Dealing with change and sustainability in a global trade network: dynamics and main lessons from port cities areas

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Abstract

Ports and harbours constitute strategic areas at a national and international scale, in terms of consumption, production and storage of a wide diversity of goods and services. They use a lot of resources such as material, water and energy flows for their activities (industrial, agricultural, touristic and urban) and thus concentrate a lot of complex issues in terms of sustainability. Operating in a global and regional context of competitiveness, these areas are directly exposed to rapid and uncertain changes in both endogenous factors (economic activity, environmental pressure, increasing of people on the coastal areas, etc.) and external factors (regulatory changes, strategies of major maritime and industrial companies, etc.). To adapt, port and harbours areas become lands of implementation of new modes of governance, through innovative forms of organization and cooperation between stakeholders in order to anticipate to current geopolitical brakes about energy and natural resources management. Examples of synergies around resource issues such as water, waste and energy management are now implemented, especially in industry. Moreover, new forms of integration appear, based on multi-sectors cooperation at the interface of urban, agricultural and industrial functions of port areas.

This communication will present the capacity of port and harbours areas to deal with change, to continue to develop their activities in an increasing complex context and to achieve sustainability. These dynamics will be described at an international scale, through a diversity of industrial ecology initiatives, focusing on main examples in terms of resilience capacity through 1/industrial-industrial synergies, which contribute to increase the economic and environmental efficiency of companies 2/ industrial-urban synergies, which contribute to re-densify the link between port and cities, not only from a geographical point of view 3/ urban-agricultural synergies, which introduce new close-loop on an local area to save resources and 4/agricultural-industrial synergies which propose a new form of connexion for companies to anchor and embed their activities in a local context, drawing circular functioning models of agro ecosystems.

A focus will be put especially on agricultural-industrial synergies, through an energy and water metabolism study, in order to show the necessity of increasing connexion between activities to improve resources and land management and to enhance the mutual benefits of stakeholders. The final discussion will propose a presentation of current main results which can be linked with the resilience research framework and a perspective of trends and further challenge to connect agrosystem research study and industrial ecology field.

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