

CONTEMPORARY FISHERIES RISKS AND SME RESILIENCE DUTCH FISHING VESSEL (RE)DESIGNING 1988-2018

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Abstract

The North Sea flatfish fisheries can be characterised by small, family owned enterprises (SME), where the fishermen have a decisive voice in (re)designing and adapting to socio-technical system capacity, safety-wellbeing and resilient business performances. In particular, the Dutch safety- and sustainability awareness reflect on engineering(reliability) and business models. Where maritime resilience goes further than a mere socio-organisational approach on safety consequences and recovery from mishap and disaster. Since the 80s the Dutch fishing vessels had to adapt to three major socio-political changes, at the same time becoming key(re)design drivers: from traditional to Safe & Health Environment (SHE; Kindunos; safety-integrated redesign), from SHE to Corporate Social Responsibility (CSR; MDV-1; disruptive new design) and currently from sustainable to integration of the Circular Economy Principles (CE; prospective CE-(re)design concepts). On existing vessels the required safety-and sustainable modifications came with very high transition costs, especially under conditions of the 2008 economic crisis. This severely hampered the ability of individual SME's to invest in mid-life upgrades, let alone in disruptive new buildings. The new socio-political challenges dictate change in (re)design approaches, in which sound safety aspects stay consistent and vital. In order to remain flexible and resilient to future fishery system changes, the fishing vessel design process must become more transparent and already start at conceptual level. Firstly with identification of future-proof design aims and sound business models, rather than further restrictive detailing and extensive quantification of current performance indicators. Such an effort requires disruptive design approaches at corporate- and sector level rather than adaptation at a strict organisational level. However, the resilience engineering essential abilities are a good start-up integrating multiple- sustainability change drivers. It requires an integration of fisheries engineering expertise, sectoral and public support and new cyclic innovation strategies. Such a integrative top-down/bottom-up (design)cooperation facilitate foresight on future SME behaviour and viable exploitation of fishing vessels in a life cycle approach; making them less dependent on constantly changing socio-economic market mechanisms for the short and medium term as well as socio-political change drivers on the long term.