The contents of the poster

Poster title	Systems Social Marketing & One Health: PIER Perspective of Blue Spaces.
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Poster Reference Track – B*	13. Use systemic thinking to solve complex social problems and influence social policy 3.Use of citizen-centred design, participatory design, actor involvement and co-creation. 8.Global climate change, environmental protection, overconsumption and sustainability. Environment and health
Aims and objectives	1. The integration of participative system thinking tools, social marketing principles and the One Health approach to grasp complex feedback dynamics of factors affecting Blue Space quality and protection 2. Engagement of key stakeholders to co-create a collaborative systemic map of factors affecting the health of Blue Spaces, where the map acts as a mechanism and a boundary object for discussing and formulating further policy measures
Target group / focus	All stakeholders engaged in Blue Space use and protection, including academia, industries / businesses, governmental organizations and society (e.g., NGOs, Blue Space users), as per the Quadruple Helix Model (Carayannis and Campbell, 2009).
Focus on the project / **Research**	• Lack of understanding of feedback causal dynamics behind Blue Space protection and usage • Insufficient level of grasping the complexity of Blue Space health deterioration • Disregard of side-effects, complex dual nature and interrelatedness of factors affecting Blue Space quality, which can undermine the realization of the One Health approach
Method / approach	The research was based on multi-stage mixed methodology, including the following methods: • Use of protocols for stakeholder analysis and participation in social marketing systems (McHugh, Domegan and Duane, 2018), • In-depth interviews, the factor-identifying survey and mini-collaborative stakeholder workshops (Saunders et al., 2019), • Use of systems thinking tools, causal loop diagrams (CLDs) and group model building (Sterman, 2000), feedback loop narratives (Ricigliano, 2012) to co-create systems map, and • Systems map socialization with key stakeholders, including academia, government, NGOs, businesses and society.

Relevant data and graphs

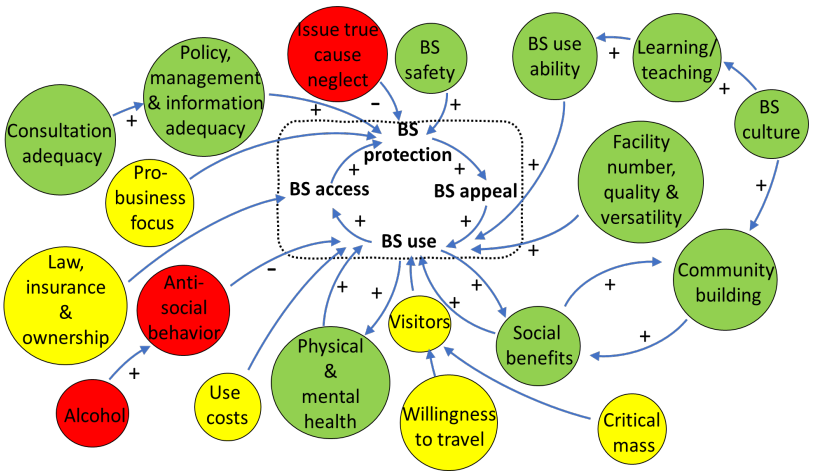

Figure 1. Blue Space health map. The arrows show cause-effect links, while polarity signs indicate the character of change: pluses when change is in the same direction, and minuses when the change is in the opposite direction. The use of circles of different colours is explained in the Results section.

Results / evaluation

The research results are summarized as a Blue Space health map (Figure 1), which was originated via group model building process with key system-affecting stakeholders. The presented map is a simplified version of the causal loop diagram, which includes over 100 variables and 38 feedback loops. The map highlights complex feedback structure of the focal problem, which is the deterioration of Blue Space (BS) quality and irresponsible usage of Blue Spaces.

The central feedback loop shows the deep intrinsic connection between BS appeal, use, access and protection, when the factors of this loop operate in accordance with the principles of sustainable development. However, group model builders argued that this loop dynamic is characterised by the ongoing conflict or dilemma between the BS use and the need to increase BS conservation. It is clear that conservation limits a possibility for the BS access and development. So, conservation efforts need to perform a balancing act between the urge of BS development and the necessity to preserve nature.

The influence of various factors, affecting BS quality and use, is of a dual nature when they can be both enablers and barriers, subject to specific conditions (Figure 1 specifically highlights such factors in yellow colour circles). For example, BS use costs could be either prohibitive, when expensive equipment is required for certain BS activities (e.g. yachting), or stimulating, like in case of walking. The same refers to the number of visitors of Blue Spaces, which can be either restrictive or enabling for improving BS quality, subject to reaching critical mass of such visitors.
Some factors act as clear barriers for the system (shown as red colour circles on Figure 1). This specifically relates to antisocial behaviour, exacerbated by increased alcohol consumption. Such behaviour became a serious problem, especially following the Covid-19 pandemic.

The influence of certain factors is purely enabling (shown as green colour circles on Figure 1), like, for example, the great benefits of Blue Spaces for mental/physical health and community building or the impact of adequate policy, enforcement and information. Such adequacy, strengthened by adequate consultation practices, was named as an indispensable factor, significantly contributing to the health of Blue Spaces. Likewise, BS use and accessibility hinge on BS facility number, quality and versatility.

While uncovering these dynamics, the group model builders, representing key system stakeholders, provided a range of examples, evidence and facts to support their reasoning, as well as suggested leverage points for improving Blue Space health

and usage. They also originated the so-called loop narratives for each of 38 feedback loops. They marked the high value of such narratives as a potent organizing and deliberating tool, which confirms that "stories are at the fundamental core of human memory, knowledge, and social communication", while "our brains are hardwired for storytelling" (Weinreich, 2021, p. 1).

Causal loop diagramming and group model building assist in having a bigger and more strategic vision of the focal system problem and One Health problem. After collectively creating the focal problem's model (the Blue Space health map), the key stakeholders recognised that every aspect of natural environment could not be controlled. This recognition should be linked to the respect for Blue Spaces, as well as to seeing the excesses of marketing activities and probusiness focus (Figure 1), since marketing tries to provide a "perfect" environment, which often cannot be associated with natural habitats. Restrictions, imposed on Blue Space use, should limit human intentions to control everything, while people should focus more on understanding of the natural environment. This strategic vision of Blue Spaces is an important conclusion and recommendation of the PIER project.

Conclusions and recommendations

Reference

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Link for more information

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