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Title: Sowing potential transformative changes in the fishing and agrifood systems – Conference report

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Abstract

The need to better understand the trade-offs between food production, trade and consumption; social and environmental impacts of food systems and food health requirements remains a challenge. Additionally, there is an urgency to transform the food system to reach the dietary patterns required to address the current diet-environment-health trilemma. Transformative changes are required to deal with the food system crisis. To this end, it is necessary to strengthen the links in the food chain and establish solid alliances between production and consumption with the objective of designing alternative food systems. In this context, the Agroecosystems History Laboratory of Pablo de Olavide University and Alimentta-Think tank for the transition of agrifood systems, organised the IX International Congress of Agroecology between the 19th and the 23rd of January, 2023, in Seville (Spain). Its theme was "Cultivating local agroecological-based food systems". Within the Congress, a hybrid panel of "Sowing initiatives with transformative potential in the fishing sector" was held to bring together initiatives with the capacity to generate transformative changes and enhance the value of fisheries in the field of agroecology and food sovereignty. The panel included communications related to seafood consumption, food sovereignty, co-management, inequalities, collaborative experiences, waste management, transformation processing and commercialization. As a conclusion of the panel, a new perspective is required to redesign the agrifood systems and promote desirable multiple transformative changes that help to establish analytical and political action strategies in the field of fisheries as a food system.

Key words: food sovereignty, co-management, transformations, social justice, inequality, value chain.

1. Introduction

The IX International Congress of Agroecology was held in Seville (Spain) from 19th-21st of January 2023. The congress was organised by the Agroecosystems History Laboratory of Pablo de Olavide University and the think tank Alimentta. The panel "Sowing initiatives with transformative potential in the fishing sector" was tasked with: i) bringing together ongoing initiatives with the capacity to generate transformative changes [1], ii) enhancing the importance of fisheries in the fields of agroecology [2].

Currently, there is a growing consensus that in order to achieve Sustainable Development Goals and to live inside planetary boundaries we need to transform the food system [3,4]. It is urgent to adopt the One Health approach, to simultaneously reach healthier dietary patterns, diminish the associated environmental impacts and provide a just distribution of generated incomes and wealth [5,6]. Agroecological proposals for better integrated agricultural production, distribution and consumption systems [7] and the need to switch to a more vegetarian diet [6,8] are gaining momentum. They are spurred by the need to decrease global greenhouse gas emissions

generated by food production [9,10] and food miles [11]; and by the increase of diseases caused by excessive consumption of meat [12,13]. However, the discussion for integrating seafood system with the One Health perspective is lagging behind. How much and what type of seafood is appropriate to consume, how it should be fished and distributed, to solve the environment-health-social trilemma is still largely unknown and needs public discussion. Seafood is one of the most highly traded commodities worldwide [14]; to supply current seafood demand, fleets need to travel further [15] and fish deeper [16]. As a consequence, marine foods are sourced farther from where they are consumed [17] with an increasing ecological footprint [18]. Even so, seafood is uniquely positioned to contribute to food provision and future global nutrition security [19,20,21].

The initiatives presented in the panel promote new ways of interaction between people and the marine environment (Supplementary Material, SM). In particular, a socio-ecological perspective on fishing systems that focuses not only on safeguarding resources, the good state of conservation of marine ecosystems and the health of humans, but also on the capacity to respond to the fishing sector's current problems. These include a focus on issues such as social justice and equity, commercialisation, processing, consumption and improved governance, which can only be addressed by enacting just and sustainable transformative changes.

2. The importance of the scale and the phases in the value chain

Research presented the importance of locally-based and collaborative initiatives between different actors in the design of transformative processes, such as: i) the community development actions carried out by NGO Soldecocos, presented by David Florido (University of Seville) and Jorge Saéz (Soldecocos) (C1, SM); ii) the Foodnected project, a network of local communities linking producers and consumers in more sustainable food chains, presented by Annya Crane (LIFE platform) (C2, SM); and iii) the proposal of fisherwomen in action, presented by Ericka de Oliveira (University of Brasilia) (C3, SM). The Marine Stewardship Council (MSC) certification and their Medfish project, presented by Julio Agujetas (MSC), showed how an international standard certification can be transferred to local and regional realities contributing to empowering fleets to lead their own transition to sustainability (C4, SM). The ClimaPesca project, presented by Marta Albo-Puigserver (COB-IEO) aimed to detect from local singularities to nation-wide patterns in experiential knowledge of fishing communities in Portugal as indicators to monitor climate change (C5, SM).

Other communications presented research with a regional focus, in Spain and beyond. These include the presentations by: i) Miquel Ortega (ICM-CSIC), providing an analysis on the value chain of fisheries in Catalonia and Balearic Islands (C6, SM); ii) Sílvia Gómez (Autonomous University of Barcelona), on how marketing initiatives and consumption values are reflected on social media in Catalonia (C7, SM); and iii) José Pascual (University of La Laguna), on the implementation of simple local tuna processing strategies, with the involvement of fisher's organizations, to supply local markets in the Canary Islands (C8, SM). Rita Calvário (University of Coimbra) and Irmak Ertör (Bogazici University) explored the relevance of food sovereignty for fisher movements in Brazil, and internationally (C9, SM). They showed how transnational social movements, such as La Via Campesina and the World Forum of Fisher Peoples, have joined forces around the notion of food sovereignty, and exemplify some of its regional translations.

Besides the scale of analysis, the presentations also focused on different segments of the value chain. The MSC environmental certifications act on both, the extractive part of the system and in governance mechanisms (C4, SM). This view is shared by the NGO Soldecocos in its search for

sustainable ways of using marine ecosystems based on different tools from the social and experimental sciences (C1, SM). The contributions presented by Miquel Ortega (C6, SM) and Sílvia Gómez (C7, SM) highlighted how value chain analyses allow to identify the degree of concentration of some commercial operators by ports and fisheries, and the level of connectivity with the global markets.

Two other presentations focused on seafood transformation processes. In the fisherwomen of Brazil case study (C3, SM), two of the greatest challenges of the fishing sector were: i) inclusion of women in the labour market; and ii) waste treatment, reutilization, recycling and valorisation. The project addresses the environmental problem caused by fish waste through creating a processing industry focused on the use and transformation of this waste into compost, pet food or even bio-jewellery. The Canary Islands example (C8, SM) demonstrated how artisanal fisher's organisations collaborated through the Macarofood and FoodE projects to improve market opportunities for artisanal fish catches. In addition, the Ecotunidos initiative achieved replacement of imported fish with local products in the pupils' meals in a number of schools.

3. Challenges in transforming the fishery agrifood chain

The socio-ecological systems of fishing and its agrifood chains cannot be thought of outside the framework of the "Blue Revolution", highlighting how fish industrial production represents the biggest growth in the food industry in the last 40 years. The communication by Paloma Herrera-Racionero and Lluís Miret-Pastor (Polytechnic University of Valencia) demonstrated how aquaculture generates tensions with fishing exploitation systems, since they compete for coastal space (C10, SM). Technocratic and economic growth logic promoted by the Blue Growth is diametrically opposed to sustainability, leading to dispossession and exclusion of fishing communities [22].

Another major challenge is how to incorporate the concept of food sovereignty into the popular collective imagination and practices (C9, SM). The concept has the capacity to generate critical thinking, and to be a mobilisation tool for local fishers' community struggles. Rather than an ideal self-sufficiency, the concept is about transforming ways of producing, trading and consuming in such a way collective well-being improves [23].

A third challenge is social justice. The campaign presented by Abdoulaye Seck-Papalaye (Popular Union of Street Vendors from Barcelona) draws attention to the effect that the EU's bilateral fishing agreements with third countries are having on coastal fleets and fishing communities off Senegal and other African countries (C11, SM). The proliferation of mixed capital fishing companies, with vessels using intensive catching techniques, encourages overfishing and forces African fishers to use their boats for emigration and not for fishing. While in the Spanish fleets there is a lack of workers to keep the vessels active, these experienced African migrant fishers cannot formally join the Spanish fishing crews due to their illegal status. This highlights the inseparable relationship between environmental and labour exploitation. Facilitating the incorporation of women into the fishing sector is a fourth aspect of the social challenge. Addressing it by rethinking the traditional division of labour by gender could help to maintain family businesses.

Finally, climate change is an emerging challenge that may jeopardise the success of the current management mechanisms. The ClimaPesca project (C5, SM), in addition to promoting a necessary connection between fishing organisations, scientists and other entities, favoured the transfer of traditional ecological knowledge on climate change, since the daily exposure based

on the experience of fisher work are a platform capable of defining early bio-ecological indicators that can be useful to advance in the co-design of adaptation strategies.

4. Collaboratory on fisheries and sustainability

Little is known about how transformative changes in the fishery sector can be promoted, and it has rarely been documented in the scientific literature. This issue was addressed by Sebastián Villasante (University of Santiago de Compostela) who spoke about the process of co-creation of desirable and meaningful visions of the future for the local food system around artisanal fisheries in Uruguay (C12, SM). This initiative, called Fishing Transformations, has the potential not only to collect transformative initiatives, but also to stimulate an analysis that allows understanding the conditions and factors that facilitate the processes of change. In addition, Joan Moranta (COB-IEO) calls for the creation of a Collaboratory on Fisheries and Sustainability in Spain (C13, SM). To be successfully established, it is essential that transformative initiatives have a bottom-up implementation, enabling empowerment channels and spaces for inclusive dialogue for transformations. The improvement of co-governance also requires a commitment to this perspective, fostering cooperation and transparency and ensuring a holistic approach linking the social and ecological dimensions.

5. Conclusions

The panel included communications about a variety of topics: seafood consumption, food sovereignty, co-management, inequalities, collaborative experiences, waste management, transformation processing and commercialization. There is an urgent need to understand what enabling conditions are essential, what are the leverage points for initiating transformative changes and what challenges and opportunities may arise for the future of the fisheries sector. Radical transformative changes must stop the deterioration of nature caused by anthropogenic climate change and biodiversity loss [24–28]. The agrifood system should be redesigned based on principles such as sufficiency, regeneration, distribution, commons and care [29]. It should avoid reproducing the hegemonic view and narrative on sustainability and promoting a post-growth model based on the maintenance of human and non-human life processes [29,30]. Accordingly, Alimentta's Marine Ecosystems and Fisheries Working Group aims to identify transforming processes, generate spaces for dialogue and promote transformative changes that help provide scientific evidence and political action strategies in the field of fisheries as a food system in Spain.

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