



Aquaculture development in Europe: fish farm conflicts, relevant social actors and their demands

Policy implications of findings on fish farm conflicts in Europe

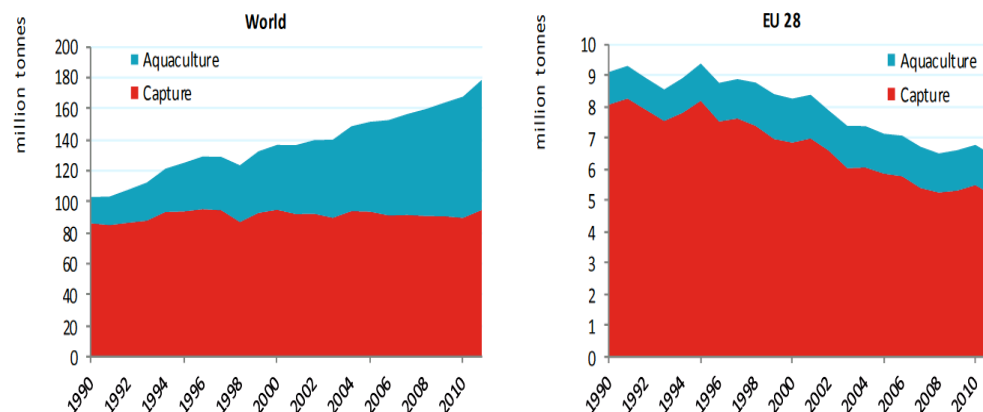
February 2016

INTRODUCTION

Aquaculture: one of the fastest-growing food producing sector

Aquaculture has globally become one of the fastest-growing food producing sectors, fueled by a rising demand for seafood and the limits of wild fish stocks. However, the same trajectory has not been followed in Europe in recent decades. Rather, European aquaculture has been stagnated, which became an important concern of European public institutions such as European Parliament and European Commission. Recent changes in plans, strategies and legislations encourage the growth of the sector and aim to facilitate the expansion of fish farms in Europe.

Figure 1.1: World and EU-28 seafood production (capture and aquaculture): 1990-2011.



Source: FAO, 2013

Figure 1. Volume of aquaculture production and capture fisheries, comparison the production in European Union with global values in the last decades (Source: FAO, 2013)

What kind of an aquaculture development do different actors demand?

Nevertheless, following a growth pursuit without taking stakeholders' opinions and current and possible social acceptance of the activity into account has already led to an intensification of social and environmental problems and socio-environmental conflicts throughout the world. In this context, it becomes crucial to uncover how various social actors and groups perceive aquaculture activity and the existing or proposed fish farm projects in Europe.

In order to encourage a socially, ecologically and economically just and sustainable development of aquaculture in Europe, the strategies should bring into balance the different demands and arguments of different sectors and stakeholders by establishing inclusive and participative policies. With this purpose, this research has focused on finding out the relevant social actors in Europe related to aquaculture development, identified the socio-environmental conflicts that are already



Policy implications of socio-environmental conflicts related to fish farms

happening in Europe with their localities and characteristics, investigated the social actors involved in them, and analyzed their arguments from an environmental justice perspective.

In several cases, we found out that a wide range of actors involved in conflicts have been opposing the fish farms with arguments related to distribution of burdens, benefits and risks, their recognition and participation, or their capabilities in the decision-making process. Hence, we disclosed that the sector does not operate conflict-free in Europe. There are several remarkable conflicts, where not only some ecologists, rather various social actors such as fishermen, municipalities, local people or tourism sector representatives resist currently existing or planned fish farms with a range of reasons and demands related to environmental justice.

The findings of the study are relevant for policy makers since they provide a general overview of the socio-environmental conflicts in Europe related to fish farms, various social actors involved in them, and their demands, which are meaningful for current and future marine policies. Especially for the recent changes in -European, national and regional- strategies and legislations on aquaculture, a greater attention on the implications of fish farm conflicts will be needed in order to ensure a participative decision-making and an effective implementation of these policies. Our research showed that in many cases, socio-environmental conflicts are linked to establishing a decision-making system that ensures environmental justice taking place.

KEY OBSERVATIONS

Fish farm conflicts in Europe: where?

The first key outcome of the analysis implied that marine finfish aquaculture in Europe does not operate without social and environmental problems and conflicts. Based on our investigation, we detected 24 **socio-environmental conflicts** related to fish farms from 10 countries in Europe¹. The most frequent one was Norway with 6 cases, followed by Greece, Ireland and Scotland with 3 cases each. The rest were found in Cyprus, Finland, France, Malta, Portugal and Spain.

Who are the social actors in conflict?

In these conflicts, the **social actors** opposing existing fish farms or the establishment of new ones were not limited to a small number of environmentally concerned people. Rather, there was a range of social groups entering into conflict with fish farms. The most relevant actors detected are small-scale fishermen, local populations, environmental NGOs, tourism sector representatives, local or regional public administrations, researchers, fish consumers, energy sector representatives, producers of different aquaculture types, representatives of other sectors, and recreational users -including a wide range of activities like sailing, diving or recreational fishing. The most common actor groups involved in these 24 cases are small-scale fishermen, local populations and environmental NGOs, as detected in 15, 14 and 14 (out of 24) cases respectively.

The most frequently detected actor group, i.e. small-scale commercial fishermen, usually complain that they are negatively affected by fish farms since the marine area they use, the wild stocks they catch, or

¹ For a detailed documentation of 24 conflicts with the actors involved in them and their environmental justice demands linked to distribution, recognition, participation and capabilities aspects, see the Table 2 (p.205-206) in Ertör, I. and Ortega-Cerdà (2015). (The detailed reference can be found in the list of *Further reading*.)



the ecosystem they depend on are negatively affected as a result of fish farms' activity. Local populations include inhabitants of towns close to a fish farm, local people using the marine area for recreational purposes, summerhouse owners, as well as young or retired people with a desire to enjoy the landscape and water quality. Environmental NGOs generally oppose fish farm projects whenever they perceive farms' operation incompatible with ecologically valuable areas or conservation objectives. In most cases, a variety of actors were collaborating by referring to several problems related to the activity or to the decision-making process. The results implied that conflicts related to fish farms in Europe are not a result of pure conservationist concerns, neither of purely local selfish complaints of NIMBY (Not-In-My-Backyard) initiatives. Rather, they are strongly related to a set of environmental justice demands of a range of social actors.

Arguments and Environmental Justice demands of a range of social actors

Social actors' arguments and demands focus on 4 dimensions of Environmental Justice: (i) *distribution*, (ii) *recognition*, (iii) *participation* and (iv) *capabilities (capacities)*. The **distribution** argument was always present especially in the cases where small-scale fishermen have been active actors. This aspect of Environmental Justice indicates the demand to an even distribution of burdens, benefits and risk resulting from fish farms' activities, which was relevant in 19 out of 24 cases. For instance, small-scale fishermen or tourism sector representatives argued that fish farms lead to an uneven allocation of resources in terms of access to fish and to marine space by excluding them from the area they have been using before. The uneven distribution of risks leads to conflicts and environmental justice demands as well. In Norway, environmental NGOs and fishermen strongly argued that fish farms contributed to the expansion of sea lice –a parasite damaging both farmed and wild fish–, which resulted in all rivers becoming closed to fishing for a while. As a result, fishermen claimed that were exposed to a greater level of risk and burden compared to fish farm owners. Environmental NGOs supported their arguments by highlighting the realized damage and the threat put on ecosystem.

Distribution, recognition, participation and capabilities

In fact, many conflicts in Europe are related to how decisions are taken. The **recognition** aspect of Environmental Justice corresponds to whether some groups of society are excluded from decision-making or their opinions are considered inferior compared to more powerful voices - or national and economic interest. If actors are not recognized, they are directly exposed to an injustice in terms of **participation**. Although they are recognized as relevant stakeholders, if there is no access to adequate and transparent information or well-established participatory decision-making mechanisms, actors' participation remain ineffective.

Environmental Justice demands for both **recognition and participation** were detected in many conflict cases. In Finland, summerhouse residents have been complaining about not being included in the stakeholder consultation process, while in Scotland, local fishermen, the tourism sector and local population felt that their opinions were ignored. In Greece and Spain, local people and fishermen claimed that local needs were not considered during decision-making. Moreover, conflicts between different public authorities, concerns on by whom the decision is made, and overruling of local decisions are perceived injustices related to participation, as encountered in Greece, Ireland and Norway. This implies that the local public authority is not recognized as a real decision-making entity, and hence the available means of participation at the local level remain inadequate.

The **capabilities** aspect is related to the social functioning of



individuals and/or communities, which in some instances has been damaged in the fishing communities and local people with the intrusion of fish farms since they were losing their social ties, cultural existence and livelihood. Capabilities are also related to the extent to which actors are able to influence decision-making. In the cases in Ireland, Cyprus and Norway, actors argued that weak voices were exposed to 'silencing' by economically and politically more powerful actors. Especially the lack of transparent information and prioritization of economic or national interest were leading to environmental justice demands.

POLICY IMPLICATIONS

Lessons from fish farm conflicts in Europe

Our research addresses NGOs in Europe (e.g. Seas At Risk network) that work to influence European legislations by building a network of alliances to increase knowhow and scientific studies on aquaculture in order to influence the sector towards an ecologically, socially and economically just and sustainable path. At the same time, it derives lessons from the fish farm conflicts in Europe, which will be relevant for policy makers for the incorporation of varying actors' perspectives and demands into new marine policies. By studying the demands and perspectives of different social groups, the research points out the level of social acceptance of the fish farms and their activity and to current and possible future socio-environmental conflicts that could be intensified if the growth pursuit continues without taking these concerns into account. Our research showed that in many cases, they are linked to establishing a decision-making system that ensures environmental justice taking place.

In this context, the investigation indicated that distribution, recognition, participation and capabilities aspects are significantly important while making plans, strategies and legislations and deciding on fish farm projects. The policy making should ensure that the burdens, benefits and risks are equally distributed among social actors and a real and inclusive participation takes place by establishing environments and meetings for open debate, at the end of which the decisions are taken in cooperation. The following key actions are linked to these policy implications.

Key actions:

Participatory decision-making and prioritizing local concerns

- Ensure participatory decision-making that includes all stakeholders for all new fish farms and prioritize local needs and concerns.

Participatory processes should guarantee a level playing field between all stakeholders (including local organizations, NGOs and other civil society organizations) in the evaluation and decision-making of any new aquaculture development. Planning tools should not impose higher level decisions in a top-down manner, rather they shall include different levels of decision-making (e.g. local, regional, national) and ensure the participation of a wide range of actors by prioritizing the local ones.

Proper planning and impact assessments

- Ensure that Spatial Planning, Strategic Environmental Assessment (SEA) and Environmental Impact Assessment (EIAs) are realized for all regional and national aquaculture plans and that EIAs are conducted for all aquaculture facilities.

Environmental and social impact assessments should be demanded for



each fish farm project not only with stakeholder consultation, but also by ensuring their equal participation to decision-making.

Additionally, existing planning tools and cumulative carrying capacity studies should be used for each local and regional plan of fish farm investments.

Public and transparent information

- *Make all information on new projects and their environmental, social and economic impacts publicly available in a transparent, timely and clear manner.* This will make it possible that all stakeholders have adequate information that is easy to access in order to evaluate the proposed projects and develop their opinions and positions. By being aware of the differences of the capacity of each social group (e.g. professionals already have established departments and experience related to these discussions, whereas neighbor associations deal with different themes at the same time on a voluntary basis) to organize itself, it is also crucial to give enough time to stakeholders so that they can analyze and evaluate the proposals and construct alternatives.

Incentives for best practices

- *Allocate sufficient public funding in order to both properly integrate environmental concerns in aquaculture development policies and practices, and create incentives for high social and environmental standards in fish farms.* Public funding should address collective public needs such as public research, data collection, monitoring and/or implementing best practices. The investigations should be made by independent entities and researchers that are not working for the sector. Public funding should not be given to any kind of fish farm projects with the sole purpose to expand and increase the production, rather it should be used to create incentives for the best environmentally and socially designed and implemented projects.

Public research on aquaculture

- *Conduct further public research on social and environmental aspects of aquaculture in Europe.* Our research showed that studies on socio-environmental conflicts related to fish farms in Europe remain under-addressed both in peer-reviewed and grey literature. Moreover, many actors and NGOs claim that most of the investigations are funded by private companies, which makes their independence questionable. This type of research shall be conducted independently from the private sector and be funded by public resources. It has to incorporate perceptions and demands of varying actors and shall be conducted with the collaboration of not only big NGOs, but also the smaller and local ones.

In order to incorporate the lessons derived from these socio-environmental conflicts and various social actors' demands, NGOs and public administration bodies should consider social sustainability and environmental justice as a pillar of sustainability and not reduce its meaning to 'job creation'. The focus on participatory decision-making and a horizontally organized democratic governance that does not ignore 'local' as a relevant place for decision-making is necessary to be brought to the agenda when considering new guidelines and policies. Since the projects are implemented in localities at spaces that are shared by a variety of users, the planning should not ignore, but prioritize local actors, local needs and concerns.

This can be realized by continuing with a reiterative decision-making and consultation process for future planning of the sector in Europe. Further campaigns may focus on the objectives such as public funding for public research and monitoring, and for moving towards best



practices in order to improve the ecological and social impacts of fish farms. For the national, regional and local planning of aquaculture facilities, SEAs, EIAs and Aquaculture Advisory Council have to include all relevant actors including local ones with a greater representation, i.e. small-scale fishermen, local NGOs or CSOs, municipalities, other sector representatives such as tourism, recreation, navigation etc.

RESEARCH PARAMETERS

24 fish farm conflicts in Europe

Our research first aimed to look at whether there are socio-environmental conflicts related to fish farms in Europe as it has been the case in different parts of the world. By detecting 24 conflicts and their localities, we tried to answer the questions of which actors have been involved in them and why, in other words with what kind of demands. Following that, we analyzed how the actors' arguments were corresponding to environmental justice aspects.

Methodology: data gathering and analysis

We based our analysis on qualitative research methods. The information was gathered from three sources that are peer-reviewed articles obtained from the SCOPUS database, gray literature, and semi-structured in-depth interviews with key social actors. The first part on scientific literature was conducted through a keyword search, where we always used the combination of two keywords: (i) aquaculture and conflict, (ii) aquaculture and Europe, (iii) aquaculture and the country name – Spain, France, Norway, Greece, and Italy. These five countries were selected since they have the greatest volume of marine finfish aquaculture production in Europe. Accordingly, 2597 articles have been reviewed, out of which 213 articles were related to socio-environmental or socioeconomic studies on aquaculture. This helped us to identify 12 conflictive cases related to fish farms in Europe in the academic literature, helping to detect the relevant sites, the social actors opposing fish farm projects and their arguments.

Secondly, a review of gray literature included documents and statistics published by FAO and EU, reports and press releases of NGOs, EU legislation and guidelines, documents about Common Fisheries Policy, national or European strategy documents, websites of opposition movements against fish farms, and some local or regional newspaper articles. Meanwhile, we followed the discussions held in aquaculture meetings, congresses and conferences, in which many sector representatives, public authorities and researchers participated, in order to grasp up-to-date debates and most common discourses.

The third part of data collection was based on semi-structured in-depth interviews. Between February and September 2013, 27 semi-structured interviews were conducted with key stakeholders (NGOs, researchers, activists, local people, aquaculture sector representatives, and European or national public administrations) from 12 countries. They enabled the detection of 14 conflicts -12 of which were not identified before - and helped to acquire more details.

Analysis based on the Environmental Justice framework

These steps of data collection and their analysis enabled insights into different actors' arguments to uncover how they perceive problems related to marine finfish aquaculture. Information from these three sources was combined, rearranged and analyzed with the lenses of environmental justice framework (Schlosberg, 2013). Accordingly, we mapped out a range of opposing actors, and investigated the connection of their demands and arguments with environmental justice concerns for



each case focusing on 4 dimensions: (i) *distribution*, (ii) *recognition*, (iii) *participation* and (iv) *capabilities (capacities)*.

Our research fits into the conflicts theme of ENTITLE project by making an analysis of those related to fish farms in Europe, the actors involved in them and their arguments corresponding to environmental justice dimensions. This is an important aspect of political ecology since it shows that these problems related to environment are not technical problems, but rather related to the distribution of burdens, benefits and risk of fish farms, inequality among stakeholders which can be improved or worsened with relevant policies, and the extent to which actors are able to participate and influence decision-making.

Further reading

Ertör, I., Ortega-Cerdà, M., 2015. *Political lessons from early warnings: Marine finfish aquaculture conflicts in Europe*. *Marine Policy* 51, 202–210.

FAO (Food and Agriculture Organization), 2013. *FAO yearbook. Fishery and Aquaculture Statistics 2011*.

SAR (Seas At Risk), 2014. *Priorities for environmentally responsible aquaculture in the EU: Joint NGO Paper*. August 2014. Available from: http://www.seas-at-risk.org/images/pdf/archive/2014/Joint_NGO_position_paper_-_aquaculture_-_FINAL_15_August_2014.pdf

Schlosberg, D., 2013. *Theorising environmental justice: the expanding sphere of a discourse*. *Environmental Politics* 22 (1), 37–55.

PROJECT IDENTITY

Coordinators

Prof. Dr. Giorgos Kallis (project coordinator), giorgoskallis@gmail.com

Dr. Christos Zografos (project manager), christos.zografos@uab.cat

Institute for Environmental Science and Technology (ICTA),
Universitat Autònoma de Barcelona, Spain (<http://icta.uab.cat/>)

Consortium

- Institute for Environmental Science and Technology (ICTA),
Universitat Autònoma de Barcelona, Spain (<http://icta.uab.cat/>)
- Centre for Social Studies of the University of Coimbra, Portugal
(www.ces.uc.pt)
- The University of Manchester, UK (www.sed.manchester.ac.uk)
- Lund University, Sweden (www.keg.lu.se)
- Humboldt University of Berlin, Germany (www.resource-economics.hu-berlin.de)
- Harokopion University of Athens, Greece (www.hua.gr)
- Bogazici University, Turkey (www.econ.boun.edu.tr)
- University of Chile, Chile (www.fau.uchile.cl)
- Environment and Management, Spain (<http://ent.cat/>)
- Centro di Documentazione sui Conflitti Ambientali, Italy (www.cdca.it)
- Friends of the Earth Middle East, Israel Jordan Palestinian Territory,
Occupied (foeme.org)



Duration	May 2012 – April 2016
Website	http://www.politicaecology.eu/
Author(s) of this brief	Irmak Ertör (ENTITLE early stage research fellow), iertor@ent.cat ENT Environment and Management (www.ent.cat) PhD candidate in the Institute for Environmental Science and Technology (ICTA), Universitat Autònoma de Barcelona, Spain (http://icta.uab.cat/)

