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Interim Report of the Working Group on Social and Economic Dimensions of Aquaculture (WGSEDA)

11–14 April 2016

Dinard, France

ICES
International Council for the Exploration of the Sea
CIEM
Conseil International pour l'Exploration de la Mer

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Executive summary

The 6th meeting of the Working Group on Social and Economic Dimensions of Aquaculture (WGSEDA) was held in Dinard, France, 11–14 April 2016 and was attended by 8 participants from Norway, Germany, Denmark, France and United Kingdom. The ToRs were addressed by plenary sessions where activities were discussed by all members of WGSEDA, as there was a small group available. Following, the group split up in 2 subgroups to work on the more specific issues and metrics of the social and economic dimensions of aquaculture.

The group found that aquaculture has not fully realized its potential as a source of food, nutrition and income generation due to the metrics or tools for understanding and assessing the social and economic impacts not being available. Thus, one of the issues therein is the question of availability and applicability of data that would help to assess aquaculture in an inclusive manner. It was found, that more often than not, available data is not regarded as being of relevance to aquaculture, and/or not being collected at the appropriate scale level to generate meaningful information needed for decision-making and governance of the sector.

For the further advancement of sustainable aquaculture development, the WGSEDA recommends to focus on:

- Pre-emptive identification of likely social impacts of aquaculture operations (using appropriate system boundaries) before aquaculture is introduced.
- Assessment of feedbacks and repercussions between different spatial scales and dimensions of aquaculture and the role the context specific framing conditions.
- Identification of appropriate sub-categories of social dimensions indicators and critically appraise the existing indicators and linked data set as well as potential gaps.
- Appraisal of existing economic indicators for their effectiveness to capture the sustainability of aquaculture on multiple levels.
- Encouragement of creative combinations of theories and methods widely applicable to assess and interpret the social and economic dimensions of aquaculture in multiple contexts.

The next meeting of the WGSEDA will take place in Bremerhaven, Germany, 20–24 March 2017.

1 Administrative details

Working Group name

Working Group on Social and Economic Dimensions of Aquaculture (WGSEDA)

Year of Appointment

2015

Reporting year within current cycle (1, 2 or 3)

2

Chair(s)

Gesche Krause, Germany

Meeting venue

Dinard, France

Meeting dates

11–14 April 2016

2 Terms of Reference a) – z)

a) Identify individual and crosscutting, integrative methods to support the evaluation of the direct and indirect socio-economic consequences of aquaculture operations and how they relate to the assessment framework

b) Examine how stakeholder inclusion and local ownership influences aquaculture

c) Identify how social, economic, governance and environmental framing conditions influence aquaculture development

d) Identify new emerging issues of socio-economic aspects of aquaculture

3 Summary of Work plan

Year 1	Review Paper to methods of evaluation of socio-economci consequences of aquaculture
Year 2	**Paper on cultural dimensions of aquaculture**
Year 3	Paper on social transformations toward sustainable aquaculture production

The 6th meeting of the Study Group on Social and Economic Dimensions of Aquaculture (Chair: Gesche Krause, Germany), being now the second meeting as Working Group (WGSEDA) was held in Dinard, France, 11–14 April 2016 and was attended by 8 participants from France, Germany, Norway, Denmark and United Kingdom (Annex1). The

objective of the meeting was to continue on the Terms of Reference that were decided upon at the last meeting of the WGSEDA in Tromsö, Norway 2015. The ToRs were addressed by plenary sessions where activities were discussed by all members of WGSEDA, as there was a small group available. Since the issues raised in the WGSEDA are a rather novel topic to ICES that pulled together scientists with a wide range of different scientific backgrounds, the discussion were primarily focused on ToR a "Identify individual and crosscutting, integrative methods to support the evaluation of the direct and indirect socio-economic consequences of aquaculture operations and how they relate to the assessment framework". These methods were outlined and first sets of metrics and indictors were developed. Under this umbrella, the group focused strongly on the applicability of existing data (primarily social and economic data) and to identify current data gaps. To advance these metrics further and to link them to the issue of the social licence to operate aquaculture is the central work plan for next year's meeting in Bremerhaven, Germany.

4 List of Outcomes and Achievements of the WG in this delivery period

Publication in Aquaculture (Elsevier) Title: A Revolution Without People? Closing the People-Policy Gap in Aquaculture Development – Authors*:* Gesche Krause, Cecile Brugere, Amy Diedrich, Michael W. Ebeling, Sebastian C.A. Ferse, Eirik Mikkelsen, José Perez Agúndez, Selina M. Stead, Nardine Stybel, Max Troell. AQUACULTURE. VOL. 447: 44-55 (2015).

Abstract

Failure of the blue revolution is a global risk. The international problem is that there is a gap in knowledge exchange between the aquaculture industry, policy makers trying to support aquaculture development and people who depend on aquaculture for a job and/or food source. Thus, governments and international organizations promoting aquaculture as the solution to improving food security, nutrition and income are failing to optimise production of natural aquatic resources.

We identify a "people-policy gap", and suggest that this is an understudied constraint which needs to be overcome before worldwide food security can be achieved from aquatic environments. We argue that this gap leads to uneven distribution of benefits, a disconnection between benefits and local needs, and detrimental effects on human health and food security, all of which can have negative repercussions on human communities and ecosystems.

In order to address this need, we present an analytical framework to guide context specific, policy relevant assessments of the social, economic and ecological dimensions of aquaculture on a case-by-case basis. The framework is designed to make best use of existing data and scientific tools for decision-making.

In conclusion, we argue for: Equal consideration of ecological, social and economic issues in aquaculture policy-making; pre-emptive identification of likely social impacts; integration of people and context-specific social framing conditions into planning and policy review; addressing the social disconnection between global consumption and produc-

tion; and, encouragement of creative combinations of theories and methods to assess and interpret the social dimensions of aquaculture in multiple contexts.

Publication in preparation

Applying social indicators to support knowledge transfer within the "EU Blue Growth Strategy" (working title) – Authors: Gesche Krause, Barry Costa-Pierce, Eirik Mikkelsen, Glenn Page, Selina M. Stead, Arild Buanes, Håkan Sandersen, Nardine Stybel, Madielene Wetterskog, José Perez, Michael Ebeling, Sophie Girard

Abstract (draft)

The European Commission has promoted "Blue Growth" as the long-term maritime contribution to the Europe 2020 strategy for smart, sustainable and inclusive growth, and aquaculture is highlighted as a possible and most interesting area within this strategy. Indeed, the search for resilient solutions in the aquaculture industry to meeting production, income, community development and food supply and security needs will be critical for the EU in the years to come.

However, metrics about the social dimensions to support and verify the EU Blue Growth strategy are scarce and need to be studied in more detail. The aquaculture sector contributes to the development in coastal rural areas and enables alternative livelihoods, but may also exhibit restraining traits, e.g. related to a fairly low occupational status, at least within parts of the sector. Given that the aquaculture sector is a possible area for sustainable Blue Growth, we need greater awareness and understanding of the broader social, cultural and socio-economic aspects of the sector, to ensure that these aspects are not negatively affected when promoting further development of the sector.

There is therefore a need to explore and explicate the social dimension of aquaculture in a more operational manner to present a more holistic understanding. To advance these issues, the resultant analyses from investigating effects of three diverging aquaculture case studies in Europe (in Germany, Spain and Norway) are highlighted to illustrate social variables/issues that are important for sustainable blue growth. To facilitate systematic consideration of different variables we use a robust aquaculture assessment framework to discuss which social variables are most relevant at various levels, and how they contribute (or not) to sustainable development pathways. For example, social security has very different implications for subsistence communities than for wealthy or aquaculture exporting communities, and must be acknowledged by indicators. In the light of the current debate on the social licence to operate, there is a significant need to determine social thresholds to aquaculture: what is the cumulative impact of multiple farms; and what is the impact on human variables, drivers and perceptions. Thus, the historical, cultural, and political-economic roots as well as their contextual fabric shape as much as the economic and ecological processes the sustainability of aquaculture production in the European realm.

Publication in preparation

Measuring economic impacts of aquaculture (working title) – Authors: Eirik Mikkelsen, Hauke Kite-Powell, José A. Pérez Agúndez, Michael Ebeling, Madielene Wetterskog, Gesche Krause

Abstract (draft)

National and regional authorities worldwide are considering aquaculture as an economic sector to help provide income and jobs, food security and sustainable livelihoods. Aquaculture production generates different economic impacts depending on type and regional and national context. Many national, regional and local public authorities may be involved and have formal roles in the aquaculture development process, and thus will want to consider the benefits that aquaculture can provide. Historic measures on the economic benefits of aquaculture activities are an obvious starting point for public and private planning related to this. These includes i.a. revenues, value added, labour costs, taxes and subsidies, export value, employment, and direct, indirect and induced economic effects.

This paper reviews the availability of economic data on marine aquaculture production in the EU, Norway and USA. What types of economic effects and metrics are included in regular (public) data collection and presentation, and at what level of aquaculture industry and regional geography? We assess how suitable or useful these available data are for planning purposes at national and regional level related to aquaculture development. We also consider measures of economic effects from aquaculture that have been collected on an ad-hoc basis, and their potential for regular collection/production and usefulness in planning.

Aquaculture can also produce other types of impacts than the ones mentioned above. These can be negative and positive external effects on actors from industry or civil society, and effects on ecosystems. The framework of ecosystem services can help identify and assess many such impacts. A thorough assessment of the pros and cons of aquaculture development should include consideration of these impacts. For the most direct comparison with the economic benefits described earlier, these other impacts should be valued as far as possible in monetary terms. Such data are not collected on a regular basis anywhere at the current time, and are rarely collected at all. We also review the economic valuation studies of impacts from marine aquaculture in the EU, Norway and the USA.

ToR d) Identify new emerging issues of socio–economic aspects of aquaculture

- Address the notion of social acceptability of aquaculture and clarify concepts (e.g. social licence to operate, social carrying capacity, social acceptance, etc.)
- Assess the potential role of socio-economic modelling as a tool for aquaculture development within an ecosystem-based approach
- Assess the social and economic effects of climate change on aquaculture development, in the sense of "transformative aquaculture"
- Linking indicators to preferences and perceptions of stakeholders of different production activities
- How evolving governance issues are structured and relevant for aquaculture
- Identify social value chain in relation of aquaculture activities

5 Progress report on ToRs and workplan

- Focus was set on ToR a) Identify individual and crosscutting, integrative methods to support the evaluation of the direct and indirect socio-economic consequences of aquaculture operations and how they relate to the assessment framework. Two papers are in their final stage of development that both address indicators and metric issues (social indicators) and data availability issues on various spatial levels (economic assessment).
- Progress on ToR b) and c): This is yet ongoing and WGSEDA is closely linked to the EU-COST Action "Oceans Past Platform" which opens up new opportunities to engage with researchers from different social science disciplines on the topic of aquaculture.
- Cooperation with other WG: Wojciech Wawrzynski as the Deputy Head of the ICES Science Programme joined the meeting to share developments and discussions on Aquaculture issues in ICES and to provide an overview on the Atlantic Ocean Research Alliance (AORA) process. He also reported on the WGAQUA meeting earlier this month and their current stage of discussions.

6 Revisions to the work plan and justification

No new ToRs were developed – the list of emerging issues under ToR d was extended.

7 Next meetings

The next meeting of the WGSEDA will take place in Bremerhaven, Germany, 20–24 March 2017.

Annex 1: List of participants

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