



Towards greater transparency and coherence in funding for sustainable marine fisheries and healthy oceans

Robert Blasiak^{a,b,*,1}, Colette C.C. Wabnitz^{c,*,1}, Tim Daw^a, Michael Berger^d, Abigayil Blandon^a, Gonçalo Carneiro^e, Beatrice Crona^{a,f}, Mary Frances Davidson^g, Solène Guggisberg^h, Jeremy Hillsⁱ, Felix Mallin^{j,k}, Edmund McManus^l, Karim oud-Chih^m, Jeremy Pittmanⁿ, Xose Santos^o, Lena Westlund^{p,2}, Hanna Wetterstrand^q, Kai Wiegler^r

^a Stockholm Resilience Centre (SRC), Stockholm University, Stockholm, Sweden

^b University of Tokyo, Tokyo, Japan

^c Institute for the Oceans and Fisheries, University of British Columbia, Vancouver, Canada

^d California Environmental Associates, San Francisco, USA

^e Swedish Agency for Marine and Water Management, Gothenburg, Sweden

^f The Beijer Institute of Ecological Economics, Stockholm, Sweden

^g United Nations University Fisheries Training Programme, Reykjavik, Iceland

^h Utrecht University, Utrecht, Netherlands

ⁱ University of the South Pacific, Suva, Fiji

^j National University of Singapore, Singapore

^k King's College London, London, UK

^l Centre for Environment, Fisheries and Aquaculture Science, London, UK

^m KfW Development Bank, Frankfurt, Germany

ⁿ University of Waterloo, Waterloo, Canada

^o University of Santiago de Compostela, Santiago, Spain

^p Food and Agriculture Organization of the United Nations, Italy

^q SwedBio, Stockholm Resilience Centre (SRC), Stockholm University, Stockholm, Sweden

^r Deutsche Gesellschaft für Internationale Zusammenarbeit, Eschborn, Germany

A B S T R A C T

This final manuscript in the special issue on “Funding for ocean conservation and sustainable fisheries” is the result of a dialogue aimed at connecting lead authors of the special issue manuscripts with relevant policymakers and practitioners. The dialogue took place over the course of a two-day workshop in December 2018, and this “coda” manuscript seeks to distil thinking around a series of key recurring topics raised throughout the workshop. These topics are collected into three broad categories, or “needs”: 1) a need for transparency, 2) a need for coherence, and 3) a need for improved monitoring of project impacts. While the special issue sought to collect new research into the latest trends and developments in the rapidly evolving world of funding for ocean conservation and sustainable fisheries, the insights collected during the workshop have helped to highlight remaining knowledge gaps. Therefore, each of the three “needs” identified within this manuscript is followed by a series of questions that the workshop participants identified as warranting further attention as part of a future research agenda. The crosscutting nature of many of the issues raised as well as the rapid pace of change that characterizes this funding landscape both pointed to a broader need for continued dialogue and study that reaches across the communities of research, policy and practice.

1. Introduction

Recent years have seen increasing awareness of the diverse benefits provided by marine ecosystems as well as a growing sense of alarm

about their degradation [1–3]. One result has been an energized global community focused on action to ensure a brighter future for the oceans [4]. The UN Oceans Conference in June 2017, for instance, brought together over 6000 delegates and has resulted in over 1500 voluntary

* Corresponding author. Stockholm Resilience Centre (SRC), Stockholm University, Stockholm, Sweden.

** Corresponding author. Institute for the Oceans and Fisheries, University of British Columbia, Vancouver, Canada.

E-mail addresses: robert.blasiak@su.se (R. Blasiak), c.wabnitz@oceans.ubc.ca (C.C.C. Wabnitz).

¹ These authors contributed equally to the writing of this manuscript.

² The views expressed in this publication are those of the author(s) and do not necessarily reflect the views or policies of FAO.

commitments aimed at contributing to meeting Sustainable Development Goal #14 on Life Below Water [5].³

A complex landscape of financial resources is supporting efforts to secure healthy oceans and sustainable fisheries. This Special Issue on “Funding for ocean conservation and sustainable fisheries” was conceived to gain insights into current and emerging trends, identify important gaps, and develop future perspectives (Wabnitz and Blasiak, this issue).

This ‘coda’ summarises the key themes emerging from a workshop in which lead authors of this special issue discussed crosscutting issues urgently requiring further attention with a group of policymakers and practitioners. (December 6–7, 2018 at the Stockholm Resilience Centre at Stockholm University). Three specific types of key interests and priorities consistently emerged from the discussions: 1) a need for transparency, 2) a need for coherence, and 3) a need for improved monitoring of projects’ impacts. These are described below along with a list of associated questions for urgent attention by researchers, policymakers and practitioners to support the achievement of a suite of Sustainable Development Goals, not only #14 (‘Life Below Water’), but also, for example, #17, #13 and #3 (‘Partnerships for the Goals’, ‘Climate Action’ and ‘Zero Hunger’, respectively).

2. A need for transparency

Many of the uncertainties associated with funding of marine conservation and fisheries projects exist due to a lack of transparency in funding allocations. The lack of transparency hampers attempts to: (1) track the magnitude in funding allocations by distinct donors; and (2) categorize projects and associated funding streams, not least to understand what dimensions of ‘fisheries and oceans’ are attracting funding (e.g., small-scale livelihoods projects vs. large-scale conservation initiatives). This in turn limits data collection as well as monitoring and evaluation of funding initiatives.

At one end of the transparency spectrum, perhaps, is the Creditor Reporting System (CRS) maintained by the OECD, which has been making information publicly available about the commitments and disbursements of official development assistance (ODA) from donor governments [6].⁴ Starting from coverage of around 70% of ODA commitments in 1995, the CRS has recorded nearly 100% of all ODA commitments since 2003. Moreover, since 1997 a series of standard numerical “markers” have been used to classify the policy objectives of ODA commitments, five of which are dedicated specifically to fisheries development objectives [7]. While the strategic and geopolitical motivations of ODA commitments are not captured by this system and remain contentious (e.g. [8–10]), much of the analysis and understanding of global trends in ODA commitments and disbursements relies on this publicly available database (e.g., [11–13]).

However, the significance of ODA to the conservation and sustainable use of the oceans and marine resources relative to other funds has declined. In 2015, for instance, one analysis found that philanthropic support for ocean-related issues exceeded ODA for the first time (USD 399 million and USD 370 million, respectively) following years of rapid and continuous growth (Berger et al. this issue). Moreover, a group of new and increasingly important donors has emerged – including China – which have largely opted not to report on ODA allocations through

the OECD Creditor Reporting System [14,15], perceiving perhaps little or no benefit from disclosing detailed data about funding allocations. In the case of both philanthropies and new and emerging donor countries, disclosure of any information about funding allocations is purely voluntary [16], and typically not in a format compatible with the OECD Creditor Reporting System. There have however been a number of initiatives aimed at capturing some of these financial flows, which may facilitate comparison with more traditional sources of financing [17]. Generally, the lack of a shared system for reporting hampers comparative analysis across funding streams, obscures the nature of global funding and limits our understanding of the true development impacts and consequences of (broadly defined) aid.

A second point relates to the difficulty of using standard classifications to identify investments in fisheries. The nature of fisheries-related interventions has changed markedly over the past 3–4 decades transitioning from very fisheries-focused projects, to thematically broader interventions including issues of governance, social organisation, power relations, community development and human rights [18]. Such a transition may be a natural response to the evolving field of fisheries, which has moved away from more conventional approaches to resource management to understanding the sector as part of complex social-ecological systems. Hence, the issue is not about the way in which fisheries interventions are packaged, but also how they are conceived based on context, globally recognized funding priorities, and shifts in donor perceptions of what allocations should target. Accordingly, any given small-scale fisheries development project could be framed as a fisheries project, a livelihoods project, a food security project, a rural development project, or even a gender or climate change adaptation project. Project developers are incentivised to creatively frame projects towards the current institutional preferences of donor agencies to maximise the likelihood of securing funds. Thus, some fisheries-focussed projects become “hidden” fisheries projects, by packaging and officially labelling according to other themes. Consequently, such projects would not be given a fisheries-related purpose code, resulting in an underestimate of financial flows to the sector. In other cases, projects explicitly aim to achieve a diversity of objectives, incorporating both ecological and human well-being considerations, making them difficult to comfortably classify within any single category of intervention [19]. Tracking systems therefore need sufficient granularity to capture multiple co-benefits, potentially from multiple investments.

But why does it matter that such a range of intentional and unintentional opacity exists across the funding landscape? For one thing, the international community has committed to prioritizing certain sectors, regions, and disadvantaged groups in its efforts to achieve the 2030 Sustainable Development Agenda and is tracking progress towards achieving the associated Sustainable Development Goals (SDGs). Two of the targets under SDG 14 (Life Below Water), for instance, specifically prioritize Small Island Developing States (SIDS) and Least Developed Countries (LDCs), while another focuses specifically on small-scale fishers. A more inclusive reporting system, which captures philanthropy, ODA, and new and emerging donors (including impact funding from development banks), would make it possible to adequately identify whether stated priorities are lining up with allocation decisions. The publication of information on development projects and their results through the International Aid Transparency Initiative (IATI) may represent a means to achieve greater accountability and transparency [20,21].

Key questions: How widespread are “hidden” fisheries and other ocean-related projects? To which specific objectives (including SDG targets) do different funding allocations for oceans and fisheries contribute? What potential exists for the efficient (updating and) harmonizing of project codes across funding bodies (and can lessons be drawn from the climate finance community)? How can philanthropies (be encouraged to voluntarily/required to) disclose detailed information on grants and their results?

³ But see Neumann and Unger [38], who highlight that true impact will depend on tractable implementation and monitoring mechanisms.

⁴ However, the clarity, integrity, and credibility of ODA statistics is currently at risk from efforts to modernize the system, which are being pushed by politically motivated discussions. As stated in an open letter published by three former top-level DAC experts [39]: “Finance Ministries’ main interest in the aid field is not to safeguard statistical integrity, but to reduce pressures to increase expenditure. Not unnaturally, they aim to get maximum ODA credit from a minimum of outlays, and it is therefore not surprising that their current dominance of the debate is leading towards overly ‘generous’ proposed changes to reporting rules.”

3. A need for coherence

Donor and recipient governments have long recognized the need for greater coordination and coherence to maximise the positive impact of limited resources provided for development interventions. The Paris Declaration on Aid Effectiveness (2005) and Accra Agenda for Action (2008) represent ambitious efforts by the global community: to strengthen the *ownership* of recipient countries over their own development processes; to ensure that donors support these strategies (*alignment*) and foster streamlined inclusive development partnerships (*harmonisation*); to promote aid that has real and measurable impacts (*results*); and for both donors and recipients to be *jointly accountable* for achieving these goals [22]. At the core of the Paris Declaration and Accra Agenda is a recognition that an uncoordinated approach can have negative impacts for donors (e.g., competing projects, duplication of efforts) as well as recipients (e.g., over-burdening of national staff, co-optation of national development strategies and priorities). Although endorsed by 137 donor and recipient countries as well as additional multilateral institutions and civil society organizations, and despite efforts such as those led by the Global Partnership for Effective Development Co-operation,⁵ progress towards achieving these aims has been slow [7]. This may, at least in part, be due to the term *coherence* being poorly defined and associated with a number of ambiguities and trade-offs in the development arena. Here it is meant to signify conditions under which “one or more actors’ policies work in tandem, synergistically or at least not in open contradiction, to promote a common overarching objective.” [23]: p477).

Within the realm of ocean finance, there is some room for optimism that ODA and philanthropy may be, perhaps unintentionally, functioning in a geographically complementary manner. While some overlap exists, the vast majority of ocean-related philanthropy has a geographic focus on North America, while the majority of ODA is focused on countries in Africa and Asia (Berger et al. this issue). However, this pattern appears to be evolving, with a number of philanthropies increasingly seeking to fund marine projects outside of North America. To maximise the sustainability of interventions, care should be taken to ensure that such efforts are complementary and follow the aims set out by the Paris Declaration and the Accra Agenda (including development priorities as determined by recipient countries). At the donor-recipient nexus, the level of coordination is less apparent. A heavy emphasis by philanthropy on promoting large no-take marine protected areas (rather than sustainable use MPAs), for instance, could be out of sync with the focus of local policymakers and communities on sustainable livelihoods or food security [24–26]. The distinction in emphasis may partly be a result of funders wanting to be seen as supporting conservation measures rather than fisheries, which are often perceived as increasing pressure on the marine environment. Therefore, there may be a disincentive to fund fisheries projects and have them categorized as such. Renewed efforts to ensure coherence and coordination across types of ocean finance are particularly relevant within the rapidly changing funding landscape to maximise aid effectiveness and transparency [27]. Coherence is also challenged by the long recognized but often overlooked ‘hard choices’ inherent in ocean and fisheries policy [28,29], between objectives that are frequently irreconcilable. Stated goals for sustainable oceans are often as diverse as food security, biodiversity conservation, employment generation, and economic profitability, yet donor-supported interventions – especially the larger ones – frequently address several of these simultaneously. In reality, however, actual project implementation may lead to trade-offs among these goals, presenting a risk that funding for healthy oceans could be so incoherent as to have neutral or even negative impacts on one or more of these

goals [18]. Targets under SDG 14.5 (conserving at least 10% of oceans), for example, are likely subject to trade-offs with 14.b (providing access to small-scale fishers), at least over the short term. They may also stand in conflict with other high-level goals, including SDG 2 (Zero Hunger). Thus, while coherence should be pursued, it requires agreement among funders on specific means to address issues within the ocean and fisheries realm [23,30]. This type of consensus, however, does not exist.

Key questions: Are different forms of ocean funding aligning with each other as well as with national and/or local community development priorities? Are they aligning with international commitments (e.g. SDG 14)? Where funding from ODA and philanthropy overlap within a country, how much coordination exists? Are mechanisms for coordination established and operating, or is this a funding priority? How could coordination between ODA and philanthropy be fostered?

4. A need for better monitoring of project impact

Understanding and improving the impact of ocean finance requires an understanding of the long-term impacts of funded projects. In some instances, successive waves of donors have entered the same context and attempted similar projects to those that have previously failed. Systematic sharing of lessons learned and reporting on project failures [31] could reduce the frequency of such events occurring. However, current practices of monitoring, evaluation, and learning from projects are rarely sufficient. The timescales of evaluations are too short, the parameters often limited, and there is a focus on what has succeeded rather than challenges that could be learned from. Assessing progress and achievements requires prior identification of clear baselines, but such efforts are often neglected. Funding is also rarely available to undertake reporting several years after the conclusion of a project to determine its longer-term impact and the sustainability of its outcomes [32–34]. Projects often have unrealistic timeframes, and evaluations seldom capture the qualitative and “human” elements that are critical to the implementation of projects (Macfayden et al. this issue). Despite the importance of evaluation, there are few incentives for donors or implementers to critically reflect on failure, or to publicly share lessons across (sometimes competing) institutions. There is also a lack of incentives for many organizations to conduct truly independent evaluations. These challenges to evaluation and learning generally are even greater for philanthropic organizations which lack government accountability requirements, use more diverse approaches, or have different priorities.

Despite these structural challenges to effective evaluation and learning, practices could be improved. For example, even within the common time and resource constraints of end-of-project evaluation, approaches are available that could be used to understand the trajectory of the system and the mechanisms behind that trajectory, rather than more tangible, but more static and less meaningful, system-state indicators. Approaches such as ongoing or continuous evaluation are seldom used in donor-supported interventions, but could play a role in reversing that situation. Attempts in recent years at distilling the findings from evaluations of ODA allocations to oceans and fisheries projects are unanimous in noting the paucity of evidence about impacts, suggesting that a rethinking of current evaluation practices and habits, supported by guidelines and capacity building for evaluation, is necessary to learn from past experiences [35–37].

Key questions: What timelines are sensible for tracking medium-term and long-term impact of development interventions? How can project failures be communicated in a forthright manner that eliminates further loss of resources? How can incentives be adjusted to facilitate honest and insightful reflection, reporting and learning from project experience? How can institutional and individual experience of project implementation be captured and used to support better project design? Would a (voluntary) code of conduct for independent evaluation and sharing of lessons learned (including mistakes) be feasible for all donors/investors? Is the sharing of lessons learned realistically better achieved in a closed setting or publicly?

⁵ “A multi-stakeholder platform to advance the effectiveness of development efforts by all actors, to deliver results that are long-lasting and contribute to the achievement of the Sustainable Development Goals (SDGs)” <http://effectivecooperation.org/>.

5. Conclusion

The interactions among workshop participants, spanning the spectrum from academia to policy and practice, underscored that while each had an awareness of complexity of ocean finance, the landscape is changing so quickly that each participant was exposed to new and surprising information and perspectives. The long-term impacts of developments in the ocean finance community (e.g., new donors, greater role by philanthropies) on the potential to achieve the conservation and sustainable use of the oceans remain unclear. While emphasis on the oceans is increasing and funding is diversifying, the geopolitical objectives that lie behind funding as well as the complexity of ocean issues and the existence of trade-offs between different objectives, raise questions about whether increased funding can hasten progress towards achieving the SDGs. Better oversight, coordination and evaluation of ODA resource allocations is an important basis for understanding whether changes in the funding landscape are bringing more desirable outcomes.

Acknowledgements

Open access publication of this manuscript has been made possible by financial support from the program Guidance for Resilience in the Anthropocene: Investments for Development (GRAID), supported by the Swedish International Development Agency (SIDA). Authors participated in the workshop in their individual capacities with support from their respective organizations - none of the participants were remunerated for their contributions to the workshop. We also would like to thank the editors of Marine Policy for supporting the publication of this coda piece. The convening of the workshop was enabled, in part, by support from the Seafood Business for Ocean Stewardship (SeaBOS) Initiative, supported by the David and Lucile Packard Foundation, Gordon and Betty Moore Foundation, and Walton Family Foundation.

References

- [1] J. Lubchenco, E.B. Cerny-Chipman, J.N. Reimer, S.A. Levin, The right incentives enable ocean sustainability successes and provide hope for the future, *Proc. Natl. Acad. Sci. Unit. States Am.* 113 (2016) 14507–14514.
- [2] M. Ruckelshaus, S.C. Doney, H.M. Galindo, J.P. Barry, F. Chan, J.E. Duffy, C.A. English, S.D. Gaines, J.M. Grebmeier, A.B. Hollowed, N. Knowlton, J. Polovina, N.N. Rabalais, W.J. Sydeman, L.D. Talley, Securing ocean benefits for society in the face of climate change, *Mar. Pol.* 40 (2013) 154–159.
- [3] M. Visbeck, Ocean science research is key for a sustainable future, *Nat. Commun.* 9 (2018) 690.
- [4] N. Knowlton, Doom and gloom won't save the world, *Science* 544 (2017) 271.
- [5] A. Chircop, S. Coffen-Smout, M.L. McConnell, Report of the United Nations conference to support the implementation of sustainable development goal 14: conserve and sustainably use the oceans, seas and marine resources for sustainable development, *Ocean Yearbk.* 32 (1) (2018) 752–817.
- [6] OECD, Technical Guide to Terms and Data in the Creditor Reporting System (CRS) Aid Activities Database, (2017).
- [7] OECD, Purpose Codes: Sector Classification, (2019).
- [8] A. Alesina, D. Dollar, Who gives foreign aid to whom and why? *J. Econ. Growth* 5 (2000) 33–63.
- [9] H. Anke, O. Verity, Need, merit, or self-interest—what determines the allocation of aid? *Rev. Dev. Econ.* 15 (2011) 237–250.
- [10] J.C. Berthélemy, Bilateral donors' interest vs. Recipients' development motives in aid allocation: do all donors behave the same? *Rev. Dev. Econ.* 10 (2006) 179–194.
- [11] R. Blasiak, C.C.C. Wabnitz, Aligning fisheries aid with international development targets and goals, *Mar. Pol.* 88 (2018) 86–92.
- [12] A. Dreher, P. Nunnenkamp, R. Thiele, Does US aid buy UN general assembly votes? A disaggregated analysis, *Publ. Choice* 136 (2008) 139–164.
- [13] N. Ravishanker, P. Gubbins, R.J. Cooley, K. Leach-Kemon, C.M. Michaud, D.T. Jamison, C.J.J.T.L. Murray, Financing of Global Health: Tracking Development Assistance for Health from 1990 to 2007 vol. 373, (2009), pp. 2113–2124.
- [14] A.M. Strange, A. Dreher, A. Fuchs, B. Parks, M.J. Tierney, Tracking underreported financial flows: China's development finance and the aid-conflict nexus revisited, *J. Confl. Resolut.* 61 (2015) 935–963.
- [15] J. Xu, R. Carey, China's Development Finance: what Issues for Reporting and Monitoring Systems? vol. 45, (2014), pp. 102–113.
- [16] OECD, Annex B - Methodological Notes on the Profiles of Development Assistance Committee Members. Development Co-operation Report 2017: Data for Development, OECD Publishing, Paris, France, 2017, pp. 313–317.
- [17] A. Dreher, A. Fuchs, B.C. Parks, A. Strange, M.J. Tierney, Aid, China, and Growth: Evidence from a New Global Development Finance Dataset, *AidData Working Paper*, 2017.
- [18] A. Blandon, A Sea Change : Unpacking the Different Conceptualisations of Fisheries Development in Eastern Africa, Master thesis, 2018.
- [19] L. Westlund, A. Charles, S.M. Garcia, J. Sanders (Eds.), *Marine Protected Areas: Interactions with Fishery Livelihoods and Food Security*, The Food and Agriculture Organization of the United Nations and International Union for Conservation of Nature Rome, Italy, 2017.
- [20] J. Pamment, Accountability as strategic transparency: making sense of organisational responses to the international aid transparency initiative, *Dev. Policy Rev.* (2019), <https://doi.org/10.1111/dpr.12375>.
- [21] A. Rudolph, S. Holzapfel, Linking Aid Effectiveness with the 2030 Agenda in Three Steps. The Current Column, (2017).
- [22] Anon, The Paris Declaration on Aid Effectiveness and the Accra Agenda for Action, (2008).
- [23] S. Brown, Foreign aid and policy coherence for development, in: B.M. Arvin, B. Lew (Eds.), *Handbook on the Economics of Foreign Aid*, Edward Elgar, Cheltenham, 2015, pp. 477–487.
- [24] N.J. Bennett, P. Dearden, Why local people do not support conservation: community perceptions of marine protected area livelihood impacts, governance and management in Thailand, *Mar. Pol.* 44 (2014) 107–116.
- [25] N.J. Gray, N.J. Bennett, J.C. Day, R.L. Gruby, T.A. Wilhelm, P. Christie, Human dimensions of large-scale marine protected areas: advancing research and practice, *Coast. Manag.* 45 (2017) 407–415.
- [26] J.G. Mason, L.B. Crowder, M.A. Rudd, Ocean research priorities: similarities and differences among scientists, policymakers, and fishermen in the United States, *Bioscience* 67 (2017) 418–428.
- [27] S.A. Worthington, T. Pipa, International NGOs and foundations: essential partners in creating an effective architecture for aid, *Making Development Aid More Effective*, The Brookings Blum Roundtable Policy Briefs, 2010, pp. 28–36.
- [28] C. Bailey, S. Jentoft, Hard choices in fisheries development, *Mar. Pol.* 14 (1990) 333–344.
- [29] T.M. Daw, S. Coulthard, W.W.L. Cheung, K. Brown, C. Abunge, D. Galafassi, G.D. Peterson, T.R. McClanahan, J.O. Omukoto, L. Muniy, Evaluating taboo trade-offs in ecosystems services and human well-being, *Proc. Natl. Acad. Sci. U.S.A.* 112 (2015) 6949–6954.
- [30] M. Sjöstedt, A. Sundström, Donor co-ordination or donor confusion? How disputed facts and problem framing affect the prospects for aid harmonization, *Dev. Policy Rev.* (2017) 64–79.
- [31] A. Riddell, M. Niño-Zarazúa, The Effectiveness of Foreign Aid to Education: what Can Be Learned? vol. 48, (2016), pp. 23–36.
- [32] I. Christoplos, A.L. Hedqvist, J. Rothman, Lessons and Reflections from 84 Sida Decentralised Evaluations 2013 – a Synthesis Review, Swedish International Development Cooperation Agency, Sida, 2014.
- [33] EBA, Livslängd Och Livskraft: Vad Säger Utvärderingar Om Svenska Biståndsinsatser Hållbarhet?, EBA Rapport 2017, Expertgruppen för biståndsanalys, 2017, p. 12.
- [34] K. Forss, E. Vedung, S.E. Kruse, A. Mwaiselage, A. Nilsson, Are Sida Evaluations Good Enough? an Assessment of 34 Evaluation Reports, Swedish International Development Cooperation Agency, Sida, 2008.
- [35] C. Béné, R. Arthur, H. Norbury, E.H. Allison, M. Beveridge, S. Bush, L. Campling, W. Leschen, D. Little, D. Squires, S.H. Thilsted, M. Troell, M. Williams, Contribution of fisheries and aquaculture to food security and poverty reduction: assessing the current evidence, *World Dev.* 79 (2016) 177–196.
- [36] G. Carneiro, Marine management for human development: a review of two decades of scholarly evidence, *Mar. Pol.* 35 (2011) 351–362.
- [37] S. Cooke, S. Wesch, L. Donaldson, A. Wilson, N. Haddaway, A call for evidence-based conservation and management of fisheries and aquatic resources, *Fisheries* 42 (2017) 143–149.
- [38] B. Neumann, S. Unger, From voluntary commitments to ocean sustainability, *Science* 363 (6422) (2019) 35–36, <https://doi.org/10.1126/science.aav5727>.
- [39] B.J. Atwood, R. Manning, H. Riegler, Don't undermine the basic architecture of OECD/DAC statistics: A Letter of warning, (2018) Retrieved from <https://www.brookings.edu/blog/future-development/2018/12/21/dont-undermine-the-basic-architecture-of-oecd-dac-statistics-a-letter-of-warning/>.