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BOOK REVIEW

Charles, A. 2023. Sustainable fishery systems (second edition)

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Tony Charles is a learned and responsible scholar: one of a unique set of fisheries scientists who, over the past decades, has contributed to every international fisheries debate of importance and partaken in many a discussion on the challenges and contours of the sector's future. Not adhering to any particular disciplinary domain or geographical area, he has roamed far and wide. His approach to fisheries governance is common-sensical; his intention to inform the reader – whether a student, an academic or a professional – of the shape of the field as he has witnessed it developing. The resulting volume, which builds on an extensive body of earlier research and writings, is thus a 'must have' for every self-respecting fisheries library or office, a textbook to be regularly consulted. In its breadth of approach and target audience, it spreads the net wider than is frequently done. Compare, for example, 'A fishery manager's guidebook' (Cochrane and Garcia 2009), which – while largely dealing with the same subject matter – limits itself to the topics relevant, indeed, only to those directly involved in management.

This second edition of Charles' book differs markedly from the first edition that was published in 2001. For one, it has doubled in length to 650 pages. While the basic outline has remained more or less the same, many chapters have been extended or restructured. In addition, Charles has added a whole set of new chapters on contemporary topics such as the relationship between fisheries and climate change, marine spatial planning, biodiversity conservation and resilience.

Like all other guidebooks, it has strengths and weaknesses. Inland fisheries are, for example completely skipped over, as is aquaculture. The topic of gender would certainly have deserved a chapter, if only because the implications of gender imbalance are recognized as having long skewed our understanding of the sector. I myself would have voted for an additional chapter or two entirely devoted to the circumstances of 'crowded' capture fisheries in developing countries, where management options are limited and the widespread prevalence of poverty in society creeps inevitably into the fishing sector (Hersoug 2011; Bavinck et al. forthcoming). There, as Cochrane and Garcia (2009) point out, "The increasing complexity of the [governance] task requires an increase in the capacity of the management units which are still, in many countries, extremely understaffed and inadequately qualified" (2009:463–464).

The book's centerpiece – and a significant source of inspiration—is a chapter on the Cod Collapse that occurred along the Canadian east coast in the 1990s. Having witnessed this crisis first hand, Charles focuses on the 'attitudes' that prevailed among government officers, fisheries scientists, and larger-scale fishers at the time – attitudes that resulted in the ignoring of numerous warning signals (signals that were frequently provided by small-scale fishers who, in the end, were among the main victims of the collapse). He thus pinpoints what he calls the 'Illusion of Certainty' and 'the Fallacy of Controllability' that resulted in the abject failure of management.

Both attitudes belie the complexity that Charles considers to be a central feature of capture fisheries. It is because of its complexity and the resulting condition of uncertainty that, in an endeavour to capture as many relevant variables as possible, he makes use of a social-ecological systems perspective; it is for the same reason that Charles is in favour of a precautionary approach (ch14) and the need for inputs from as large a gamut of stakeholders as possible (ch17). While professional managers have a role to play – and the book provides them with plenty of useful insights – Charles is convinced that fishers themselves, and the communities

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of which they are part, may make valuable contributions to conservation and socioeconomic development too (p409).

He thus argues that local knowledge (alternatively known as indigenous knowledge, traditional ecological knowledge and fisher knowledge) complements the inputs of scientific research. This standpoint marks a major difference between the first and second editions of the book. Whereas the first edition focused unequivocally on the role of science (with an emphasis on efforts such as stock assessment), this second edition broadens the scope, arguing that "there may well be connections between the collapse of several major fisheries in recent decades, and the state of knowledge on which management decisions have been made"(p187). Chapter 9 thus pays extensive attention to connecting local knowledge with fishery research and to the ways in which knowledge production is or can be organized.

The aim of the book is the achievement of sustainable fisheries, which has four components: ecological sustainability, socioeconomic sustainability, community sustainability, and institutional sustainability (see ch 13). Three of these components are common to mainstream science, but the fourth – community sustainability – follows from Charles' academic trajectory and his lead role in the Canadian Community Conservation Research Network (CCRN) that was initiated in 2013. This network has recently collaborated with FAO to realize a new publication entitled: 'Environmental stewardship by small-scale fisheries' (2024).

Charles expresses special sympathy for small-scale fisheries that predominate in developing countries, but are also found in the Global North. Considering the Voluntary Guidelines for Securing Sustainable Small-Scale Fisheries (2015) "likely the most important fishery document" (pxv) to have been issued in recent decades, he makes frequent reference to the challenges facing this sub-sector, adding a selection of relevant quotes from the Guidelines to each chapter. In so doing, he is contributing to the veritable mountain of scholarship on small-scale fisheries. The increasing marginalization of small-scale fishers and fishworkers in the world is after all one of the most worrying trends in the global commons, amplified by the loss of beach space due to erosion as well as by phenomena such as 'coastal grabbing' (Bavinck et al. 2017) and 'ocean grabbing' (Bennett et al. 2015). Complimentary to their marginalization is the rise of 'roving bandits' (Berkes et al. 2006) and figures such as 'quota millionaires' (van Ginkel 2013; Høst 2015).

Let us take a closer look at the book's content. Part 1 consists of four chapters that tie together loosely under the heading of 'Fishery Systems'. The systems perspective that Charles adheres to is less theoretical than practical in nature. It sees fisheries "as webs of inter-related, interacting ecological, biophysical, economic, social and cultural components" (p6). It strives to understand the 'big picture', so as eventually to help fisheries improve. The chapters in this section of the book focus on the fish (ch2), the marine ecosystem (ch3), the human system (focusing on fishers involved in harvesting) (ch4), the post-harvest chain plus the communities in which fishers and fishworkers (the former engaged in capture and the latter in post-harvest processes) are embedded (ch5).

Part 2 considers the fishery governance and management systems. It highlights the rationale and objectives of governance and the institutions involved (ch6) and then the large variety of management instruments available (ch7). In my own involvement in capture fisheries, I find the latter chapter particularly valuable, differentiating input controls (limiting the totality of fishing effort) from output controls (such as quota management). But Charles also describes the performance of so-called technical measures such as gear restrictions, closed seasons and closed areas. This chapter closes with a review of economic instruments such as taxes and royalties, and subsidies.

Part 3 provides deeper insights into three challenges that can fundamentally confound and derail fisheries governance: the role of uncertainty (ch10), the prevalence of conflict (ch11) and the 'attitudes' – such as 'Illusion of Certainty' and 'the Fallacy of Controllability' mentioned above—prevailing among those in managerial positions (ch 12). All three challenges have important social science implications and defy the assumption that fisheries management is basically a matter of properly applying one's mind. They highlight the need to keep attention to process, exercise precaution, and listen carefully to the opinions of all parties available in the fisheries field.

Part 4 then considers a set of 'modern strategies' for fishery systems. Chapter 13 pays attention to sustainability and resilience and to a variety of strategies for enhancing these. Special attention is paid to overcapacity and the role of subsidies and the need for fishers to diversify their livelihoods. Chapter 14 then turns to the pursuit of what are known as adaptive, robust and precautionary management. The last three chapters in this section discuss the implications of specific approaches to fishery governance. Chapter 15 is devoted to the ecosystem approach, which chapter 16 discusses rights-based approaches. Co-management and community-based management is presented in chapter 17.

Part 5 sketches the relationship between fisheries and broader societal concerns. Chapter 18 thus considers the place of fisheries in the context of the international drive to realize a 30×30 network of Marine Protected Areas. The next chapter considers the relationship between fisheries and biodiversity conservation, while chapter 20 looks into the place of fisheries in the context of multi-sectoral management concerns that have arisen with the drive to realize 'blue growth'. The final chapter in this section considers the impacts of and responses to climate change.

The last chapter, entitled 'Sustaining fisheries into the future', helpfully summarizes the content of all preceding

21 chapters. It also maintains the book's optimistic tone: yes, capture fisheries in all their variety do indeed have a future; while aquaculture may indeed be promising, capture fishing will continue to provide food and employment and a meaningful way of life. Yes, if we make sensible use of the multitude of instruments and approaches available for governance, capture fishery – with its ancient origins, intrinsic predicaments and accomplishments—can survive us all. This is a heartening message.

Declarations

Competing interests None.

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