

Elsevier required licence: © <2018>. This manuscript version is made available under the CC-BY-NC-ND 4.0 license <http://creativecommons.org/licenses/by-nc-nd/4.0/>

**Title: Moving beyond financial value in seafood commodity chains**

**Authors:** Michael Fabinyi<sup>a</sup>, Wolfram Dressler<sup>b</sup>, and Michael Pido<sup>c</sup>.

a Corresponding author: University of Technology Sydney, 235 Jones st, NSW 2007. Email: [michael.fabinyi@uts.edu.au](mailto:michael.fabinyi@uts.edu.au). Phone: (+61 2) 9514 2308

b School of Geography, University of Melbourne, Parkville 3052, VIC, Australia. Email: [wolfram.dressler@unimelb.edu.au](mailto:wolfram.dressler@unimelb.edu.au). Phone: (+61) 402761208.

c Center for Strategic Policy and Governance, Palawan State University, Tiniguiban Heights, 5300 Puerto Princesa City, Palawan, Philippines. Email: [m.pido@psu.palawan.edu.ph](mailto:m.pido@psu.palawan.edu.ph) Phone: (+63 48) 434 0109

**Acknowledgements**

This research for this paper was supported by an Australian Research Council Discovery Grant (DP140101055).

## **Moving beyond financial value in seafood commodity chains**

### ***Abstract***

Emerging forms of governance and many academic analyses of seafood commodity chains currently have a strong focus on financial value, transmitted in a linear ‘vertical’ fashion from fisher, through traders to eventual consumers. This Brief Communication argues that the social dimensions of value must be given explicit attention in analysis if seafood commodity chains are to be made more equitable and sustainable in changing governance contexts. The paper draws on evidence from selected seafood commodity chains across the Philippines, demonstrating the range of co-produced social values that are of equal or greater significance than financial value. Fishers, traders and consumers, all generate multiple social values that shape the nature and outcomes of seafood commodity chains. In contrast to forms of fisheries governance that focus exclusively on financial or ecological values, the paper suggests that integrating multiple social values into the governance of seafood commodity chains, as well as at the site of production, should become a core focus of research and policy.

**KEYWORDS:** seafood trade; commodity chains; value chains; Philippines

### **1. Introduction**

Increasing demand for seafood has converged with social and economic changes in coastal sites of production to dramatically intensify seafood trade. In response, a growing academic literature has tried to examine the causes, natures and consequences of expanding seafood trade [1-4], with a growing subset of this research analysing fisheries trade in terms of ‘value chains’ or ‘commodity chains’ [5-8]. Commodity chains are a distinct field of study, with a wide variety of perspectives, approaches and terminologies informed by different disciplinary and epistemological underpinnings [9-11]. However, the approach taken to analyse seafood

60  
61  
62 commodity chains has so far mostly followed a fairly narrow subset of commodity chain  
63  
64 approaches. Such analyses have a strong focus on *financial value*, transmitted in a linear  
65  
66 ‘vertical’ fashion from fisher, through traders, exporters and importers through to eventual  
67  
68 consumers. The emphasis in such studies is frequently on understanding how financial value  
69  
70 is distributed within the commodity chain, and on investigating opportunities for actors to  
71  
72 *upgrade* their position in the commodity chain in order to obtain greater financial value. For  
73  
74 example, a recent major project by the FAO on fishery and aquaculture value chains focused  
75  
76 largely on economic upgrading and prices [12].  
77  
78

79  
80 Environmental governance practices have also shifted from a conventional focus on place-  
81  
82 based measures (quotas, gear restrictions, seasonal closures, protected areas etc.) to a focus  
83  
84 on seafood trade and financial value through market-based tools such as certification and eco-  
85  
86 labelling, catch documentation and traceability (CDT) [13]. However, prioritising value as  
87  
88 financial in such analysis and governance practice has largely come at the expense of  
89  
90 understanding the contextual, relational production of varied social values along seafood  
91  
92 commodity chains. This has particular implications for the coastal poor who sit at the  
93  
94 extractive end of commodity chains, and who are most vulnerable from changing governance  
95  
96 approaches as well as dwindling fish stocks.  
97  
98  
99

100 A growing field of social research has highlighted the importance of multiple values in small-  
101  
102 scale fisheries. Literature on ‘interactive fisheries governance’ [14], for example, has shown  
103  
104 how effective governance needs to acknowledge and incorporate multiple, often conflicting  
105  
106 values among different groups. In particular, scholars have used the concept of wellbeing as a  
107  
108 way to frame the multiple values affiliated with small-scale fisheries, arguing that wellbeing  
109  
110 goes well beyond financial values to include material, subjective and relational dimensions  
111  
112 [15-16]. However, while emerging social research on seafood commodity chains is  
113  
114 expanding rapidly [e.g. 11, 17] there remains less emphasis on explicitly integrating the idea  
115  
116  
117  
118

119  
120  
121 of multiple values into work on seafood commodity chains. This Brief Communication  
122  
123 therefore stresses that not only do multiple forms of value matter along seafood commodity  
124  
125 chains over time, but that they are also produced in a relational manner and must be  
126  
127 understood in this context. Emphasising the importance of historical and social perspectives  
128  
129 on commodity chains, the paper argues that the relational dimensions of value must be given  
130  
131 explicit attention in analysis if value chains are to be rendered more equitable and sustainable  
132  
133 in changing governance contexts.  
134  
135  
136

137 We argue that both commodity chain studies of fisheries and market-oriented governance  
138  
139 practices could benefit from a broader and more contextual engagement with the idea of  
140  
141 value. It specifically shows the significance of taking a broader view of ‘value’ and  
142  
143 investigating how such values are changing in different contexts across scales and  
144  
145 geographies. Rather than using the commodity chain as a formal tool with specific  
146  
147 quantitative assessments, the paper uses the notion as a heuristic lens to more deeply  
148  
149 contextualise and rethink the complex character of value production along the chain. The  
150  
151 paper does so by drawing on notions of value from selected seafood commodity chains across  
152  
153 the Philippines. The aim is to highlight how the commodity chain transmits not only financial  
154  
155 value along the chain, but also expresses – as commodities move in and out of different social  
156  
157 contexts, and across varied biophysical locations [18] – a range of other values (socio-  
158  
159 cultural, political or otherwise) that are as significant as financial value but in different ways.  
160  
161 Anthropologists, for example, have long argued that economic exchange practices are always  
162  
163 intertwined within social relationships that give them meaning [19-20]. If, as Appadurai [20]  
164  
165 noted, all commodities have ‘social lives’ intertwined with both capitalist and non-capitalist  
166  
167 relations, meanings and practices, then because these vary over time and space, the  
168  
169 production of value within and between things and peoples is contingent on specific histories,  
170  
171 ecologies, peoples and places [21: 15]. The varied values of seafood in trade are therefore  
172  
173  
174  
175  
176  
177

178  
179  
180 ‘produced and related to or embedded within the larger sets of social relations’ along value  
181 chains [22, 20: 15].  
182  
183  
184

185 The Philippines is a site of particular significance for the study of seafood commodity chains  
186 for several reasons, including: its heavy reliance on fisheries for the livelihoods of millions of  
187 coastal poor; its role as a globally significant producer of fishery products [23]; the high  
188 number of governance arrangements pioneered and implemented in the country [24]; the  
189 exceptionally high marine biodiversity [25]; and the strong threats to the marine environment  
190 [26]. Examples are drawn from specific value chains in the published literature.  
191  
192  
193  
194  
195  
196  
197  
198  
199  
200

## 201 **2. Fishers**

202  
203  
204 At the extractive end of commodity chains in the Philippines, poor coastal fishers’  
205 ‘transactional’ engagement is most often represented by a figure of financial value, such as  
206 the beach price obtained by the fisher [7], or to the proportion of overall financial value  
207 obtained by the fisher [27]. From this perspective, fishers become closely identified with the  
208 financial aspects of seafood trade, and can be labelled as ‘price-takers’ [8]. These depictions  
209 are not inaccurate – fishers at the extractive end of value chains across the country face a  
210 range of significant challenges to generate income, many of which are site and region  
211 specific. A lack of adequate post-harvest facilities, for example, means fishers struggle to add  
212 financial value to their products and remain subject to the prices offered by traders.  
213  
214  
215  
216  
217  
218  
219  
220  
221  
222  
223

224  
225 However, such a focus on direct financial value reduces the complexity of different roles,  
226 values and ideas involved in the act of fishing. At a broader level, for example, poor fishers at  
227 the ‘extractive end’ see fishing not simply in terms of ‘Peso value’ but also relative to the  
228 idea of livelihood (*hanapbuhay*) and food – indirectly through sales of fish but also through  
229  
230  
231  
232  
233  
234  
235  
236

237  
238  
239 the ‘use-value’ of fish in terms of direct consumption by fishers. Often fishers will trade the  
240  
241 best-quality fish for income and rice, and eat the cheaper, smaller varieties [28]. From a  
242  
243 socio-cultural perspective, the value of fisheries production can also be valued through its  
244  
245 linkages to reciprocity and sharing, such as how it can mediate relationships between fishers  
246  
247 and other community members [29]. Russell and Alexander [30], for example, highlight the  
248  
249 pressure on commercial fishers to give away portions of their catch among different members  
250  
251 of the community. Giving away fish can be emblematic of other values such as masculinity,  
252  
253 as in many fishing communities generosity and fishing ability are significant markers of a  
254  
255 gendered social status [31]. Fishing can also be valued in other non-economic ways: fishers  
256  
257 have a variety of socio-cultural motives for fishing, such as independence [32].  
258  
259

260  
261 Fishers also experience changing values that affect how they participate in seafood  
262  
263 commodity chains. The mobulid ray (Mobulidae) fishery in the Bohol Sea, for example, has  
264  
265 changed dramatically over the course of several decades. Originally, this fishery was based  
266  
267 around the capture of rays, for the local consumption of meat. Since the 1980s, however, the  
268  
269 mobulid fishery has transformed to one based around the export of gill plates, ultimately to  
270  
271 China. It has therefore shifted from a local fishery commodity chain where the relative  
272  
273 emphasis was on the use value of food consumption for local households, to one where the  
274  
275 relative emphasis is almost completely now focused on a much more discrete exchange value,  
276  
277 for the correspondingly discrete gill plates [33].  
278  
279

280  
281 Issues of gender (and other social relations such as ethnicity) also factor into and strongly  
282  
283 inform the production of social value at the extractive end of the commodity chain. In the  
284  
285 fisheries sector, women’s significant roles in the pre- and post- harvest sectors have been  
286  
287 well-established, as well as their role in gleaning [34-35]. Many of women’s and children’s  
288  
289 labour contributions (e.g. gutting/cleaning/drying of fish, net mending, marketing) are  
290  
291  
292  
293  
294  
295

296  
297  
298 relatively neglected in decision-making processes, and do not entitle them to the same rights  
299  
300 as male fishers [36]. Crucially, the capitalist relations of production and exchange that  
301  
302 underpin commodity chains often also render invisible and unvalued the unpaid female  
303  
304 labour of reproduction, child care and other domestic chores that allow male fishers to go out  
305  
306 to sea.  
307

### 308 309 **3. Labour and trading**

310  
311  
312 Beyond the extraction of fish, individual roles and working conditions are changing, and can  
313  
314 intensify along the chain. Small-scale capture fisheries, with smaller capital and crews, tend  
315  
316 to operate as petty commodity producers, with kin relations playing significant roles in  
317  
318 employment and also in terms of understandings of how fishing success is valued [37]. By  
319  
320 contrast, the large-scale commercial fisheries that developed in the Philippines through the  
321  
322 twentieth century [38] tend to operate on principles of firms or corporations, with contracts,  
323  
324 wages and non-personalised crew recruitment [30]. Similarly, as large-scale aquaculture  
325  
326 becomes more prominent across the Philippines (e.g. for milkfish, tilapia and prawns), fishers  
327  
328 who transition to this work tend to become more subject to the broader financial goals and  
329  
330 values of the company. The transition from capture fisheries to aquaculture also has  
331  
332 potentially negative consequences for nutritional values of fish for consumers [39].  
333  
334  
335  
336

337 Multiple values in seafood commodity chains are also expressed through the diverse roles of  
338  
339 traders. Traders are often emphasised to be the actors who extract the largest portions of  
340  
341 financial value in fisheries commodity chains [7,27,40] and are sometimes consequently  
342  
343 labelled as exploitative. Traders do indeed obtain greater proportions of financial value in  
344  
345 many seafood commodity chains, and incidents of extreme exploitation have been well-  
346  
347 documented, for example in the notorious *muro-ami* fishery of the 1980s [38], as well as  
348  
349 more recent concerns over forced labour [41]. Yet the role of traders also generates  
350  
351  
352  
353  
354



355  
356  
357 significant value for the broader livelihoods of poor fishers. In particular, they frequently  
358  
359 provide credit to fishers in an environment where other forms of credit (e.g. from the  
360  
361 government or private banking institutions) are inaccessible because of stringent lending  
362  
363 requirements, or are only offered at very high interest rates. For many fishers, the credit  
364  
365 offered by traders is an important means to begin a new fishing enterprise. In the rural  
366  
367 Philippines, such relationships are typically not confined to the provision of credit for fishing,  
368  
369 but can extend as a social safety net during periods of financial hardship. For example, fishers  
370  
371 in the live reef fish trade in Palawan frequently request loans from their buyers for rice and  
372  
373 other essential purchases if there is bad weather [42]. Importantly, the relationships between  
374  
375 fishers and traders in the Philippines are also embedded in local cultural values such as pity  
376  
377 (*maawa*) for the poor, a ‘right to survive’ [43], *pakikisama* (the ability to get along with  
378  
379 people) and *utang na loob* (debt of gratitude).  
380  
381  
382

#### 383 384 **4. Consumption** 385

386  
387 At the point of consumption, different social values in varied geographies also heavily  
388  
389 influence the nature of the chain. Increasingly, consumer preferences for sustainably  
390  
391 managed fish in locations such as Europe influence the ways in which fish for some export  
392  
393 markets must be caught, subsequently informing the development of fisheries regulations in  
394  
395 source countries such as the Philippines [44]. However, such values vary significantly among  
396  
397 end markets – in China, for example, live groupers are valued not in terms of their  
398  
399 environmental sustainability, but by their signification of social status and ‘face’ (*mianzi*) for  
400  
401 guests at banquets [45]. These Chinese social values have meant that fishers in the  
402  
403 Philippines target fish of particular size and colour, and has meant that trade has expanded  
404  
405 rapidly with limited regulations for environmental sustainability [42]. The preference is  
406  
407 usually for a plate-size red coral grouper, which is a sub-adult or has not yet spawned. Such  
408  
409  
410  
411  
412  
413

414  
415  
416 qualitatively different values about the consumption of fish therefore fundamentally shape the  
417  
418 ways in which many seafood commodity chains develop over time. From this perspective,  
419  
420 value is not simply a financial quantity to be identified and measured, but one which is  
421  
422 fundamentally relational, and meaningful through its links with other ideas, processes and  
423  
424 activities [16]. Seeing seafood commodity chains from this relational perspective has  
425  
426 implications for how governance of value chains is perceived.  
427  
428

## 429 430 **5. Governance** 431

432  
433 In recent decades, conservation and ecological values have become increasingly prominent  
434  
435 for the governance of seafood commodity chains in the Philippines. While a plethora of  
436  
437 governance tools exist that include both state and non-state actors, CDT and certification are  
438  
439 two linked tools associated with commodity chains that are rapidly growing in uptake and  
440  
441 significance [46]. These market-based tools are designed to work with fisheries trade rather  
442  
443 than against it. Certification such as that of the Marine Stewardship Council aims to more  
444  
445 effectively regulate fisheries stocks by linking market actors such as traders and fishers to the  
446  
447 idea of sustainable seafood, which commands a price premium in many markets. CDT is a  
448  
449 fundamental component of certification that helps ensure the fish are legally caught and  
450  
451 properly labelled. In such a way, market actors are supposed to become incentivised to  
452  
453 participate in environmentally sustainable value chains, and so financial value can be  
454  
455 generated while maintaining the ecological integrity of the fish stocks.  
456  
457

458  
459 While certification has so far mostly been limited to fisheries in developed countries, steps  
460  
461 towards certification (such as through Fisheries Improvement Projects and CDT programmes)  
462  
463 are increasingly being applied in developing countries such as the Philippines. However, the  
464  
465 ways in which small-scale fishers will be able to access the financial value gains associated  
466  
467 with such market-oriented mechanisms, and the ways in which rights and equity will be  
468  
469  
470  
471  
472

473  
474  
475 valued, remain crucial questions [47]. Any approach to fisheries governance that focuses  
476  
477 exclusively on generating financial and ecological values has the strong potential to  
478  
479 subsequently ignore and impact upon the other types of values highlighted in this paper [48,  
480  
481 49,50].  
482  
483  
484  
485  
486  
487

## 488 **6. Recognising social values in seafood commodity chains**

489

490  
491 In contrast, other emerging forms of fisheries governance and political approaches, which are  
492  
493 not exclusively focused on financial and ecological value, have the potential to better account  
494  
495 for multiple and changing values that reflect the context of people and places [49]. Firstly,  
496  
497 research on wellbeing has strongly emphasised the need to understand multiple social values  
498  
499 [16], and new methods elucidate ways to understand and incorporate the multiple values of  
500  
501 fisheries along the commodity chain [51,52,53]. Secondly, human-rights approaches to  
502  
503 fisheries governance are becoming more prominent, expressed through initiatives such as  
504  
505 Fairtrade fisheries [54], the FAO Voluntary Guidelines for Small-Scale Fisheries [55],  
506  
507 attention to gender mainstreaming in fisheries development projects, and calls for socially  
508  
509 responsible seafood [56]. These human-rights based approaches that emphasise ‘social  
510  
511 upgrading’ do not depend on states or markets alone, but instead involve greater roles for a  
512  
513 wider range of actors including organised labour and civil society groups [57]. When coupled  
514  
515 with each other, explicit attention to fishers’ entitlement to a better income *and* safety nets  
516  
517 (e.g., education, health costs) that facilitate greater opportunities for well-being might emerge  
518  
519 at the extractive end of commodity chains.  
520  
521  
522

523  
524 Well-designed and targeted subsidies for small-scale fishers [58] have the potential to ensure  
525  
526 an overall rise in basic minimum income that aligns with and supports explicit social values  
527  
528 and aspirations at the household level (e.g., educational opportunities) [59]. This is, in effect,  
529  
530  
531

532  
533  
534 a ‘subsidy for social values’ at the poorest, most marginalized end of seafood commodity  
535 chains. From within and beyond the seafood industry, different income support plans can  
536 enable aspirational spaces for fishing households, with explicit insurance and gender  
537 provisions [59]. Such methods amount to bundling fisheries income subsidies and well-being  
538 concerns in order to create spaces that allow for the coastal poor to express and enact social  
539 values, needs and aspirations [60]. While any model of governance will involve simplifying  
540 local rural complexity in order to render technical solutions [61], how to ensure that  
541 approaches seeking to expand the capabilities of small-scale fishers should remain a core  
542 focus of both research and policy.  
543  
544  
545  
546  
547  
548  
549  
550  
551  
552  
553  
554  
555  
556

## 557 **References**

558  
559  
560 [1] Béné C, Lawton R, Allison EH. “Trade matters in the fight against poverty”: narratives,  
561 perceptions, and (lack of) evidence in the case of fish trade in Africa. *World Dev.* 2010;  
562 38(7):933-954.  
563  
564  
565  
566

567  
568 [2] Béné C, Arthur R, Norbury H, Allison EH, Beveridge M, Bush S, Campling L, Leschen  
569 W, Little D, Squires D, Thilsted SH. Contribution of fisheries and aquaculture to food  
570 security and poverty reduction: assessing the current evidence. *World Development* 2016;  
571 79:177-96.  
572  
573  
574  
575  
576

577 [3] Gephart JA, Pace ML. Structure and evolution of the global seafood trade network.  
578 *Environmental Research Letters* 2015; 10:12.  
579  
580

581  
582 [4] Crona B, Basurto X, Squires D, Gelcich S, Daw TM, Khan A, Havice E, Chomo V, Tröell  
583 M, Buchary EA, Allison EH. Towards a typology of interactions between small-scale  
584 fisheries and global seafood trade. *Marine Policy* 2016; 65:1-10.  
585  
586  
587  
588  
589  
590

- 591  
592  
593 [5] Jacinto ER, Pomeroy RS. Developing markets for small-scale fisheries: utilizing the value  
594 chain approach. In: Pomeroy RS, Andrew NL (editors). Small-scale fisheries management:  
595 frameworks and approaches for the developing world. UK: CABI; 2011, pp160-77.  
596  
597  
598  
599  
600 [6] Thyresson M, Crona B, Nyström M, de la Torre-Castro M, Jiddawi N. Tracing value  
601 chains to understand effects of trade on coral reef fish in Zanzibar, Tanzania. Marine Policy  
602 2013; 38:246-56.  
603  
604  
605  
606  
607 [7] Purcell S, Crona B, Lalavanua W, Eriksson H. Distribution of economic returns in small-  
608 scale fisheries for international markets: A value-chain analysis. Marine Policy 2017; 86:9-  
609 16.  
610  
611  
612  
613  
614 [8] Rosales RM, Pomeroy R, Calabio IJ, Batong M, Cedo K, Escara N, Facunla V, Gulayan  
615 A, Narvadez M, Sarahadil M, Sobrevega MA. Value chain analysis and small-scale fisheries  
616 management. Marine Policy, 2017; 83:11-21.  
617  
618  
619  
620  
621 [9] Bernstein H, Campling L. Commodity studies and commodity fetishism I: Trading down.  
622 Journal of Agrarian Change 2006; 6(2):239–64.  
623  
624  
625  
626  
627 [10] Bair J. (editor). Frontiers of commodity chain research. Stanford, CA: Stanford  
628 University Press; 2009.  
629  
630  
631 [11] Hamilton-Hart, N. and Stringer, C. Upgrading and exploitation in the fishing industry:  
632 Contributions of value chain analysis. Marine Policy 2016; 63:166-171.  
633  
634  
635  
636  
637 [12] Bjørndal T, Child A, Lem A, Dey MM. Value chain dynamics and the small-scale  
638 sector: A summary of findings and policy recommendations for fisheries and aquaculture  
639 trade. Aquaculture Economics & Management. 2015;19:148-73.  
640  
641  
642  
643  
644  
645  
646  
647  
648  
649

- 650  
651  
652 [13] Bailey M, Bush SR, Miller A, Kochen M. The role of traceability in transforming  
653 seafood governance in the global South. *Current Op Envi Sust* 2016; 18:25–32. `
- 654  
655  
656  
657 [14] Jentoft S, Chuenpagdee R. Interactive governance for small-scale fisheries: Global  
658 Reflections. Dordrecht: Springer; 2015.
- 659  
660  
661  
662 [15] Coulthard S, Johnson D, McGregor JA. Poverty, sustainability and human wellbeing: a  
663 social wellbeing approach to the global fisheries crisis. *Global Environmental Change* 2011;  
664 21(2):453-63.  
665  
666  
667  
668  
669 [16] Johnson D, Acott TG, Stacey N, Urquhart J (editors). *Social Wellbeing and the Values*  
670 *of Small-scale Fisheries*. Dordrecht: Springer; 2018.
- 671  
672  
673  
674 [17] Belton B, Hossain MAR, Thilsted SH. Labour, identity and wellbeing in Bangladesh's  
675 dried fish value chains. In: Johnson D, Acott TG, Stacey N, Urquhart J (editors). *Social*  
676 *Wellbeing and the Values of Small-scale Fisheries*. Springer: Dordrecht; 2017.
- 677  
678  
679  
680  
681 [18] Foster RJ. *Materializing the nation: Commodities, consumption, and media in Papua*  
682 *New Guinea*. Bloomington: Indiana University Press; 2002.
- 683  
684  
685  
686  
687 [19] Mauss M. *The gift: The form and reason for exchange in archaic societies*. WW Norton  
688 & Company: New York; 2000.
- 689  
690  
691  
692 [20] Appadurai A (editor). *The social life of things: Commodities in cultural perspective*.  
693 Cambridge: Cambridge University Press; 1988.
- 694  
695  
696  
697 [21] Nevins J, Peluso NL (editors). *Taking Southeast Asia to market: Commodities, nature,*  
698 *and people in the neoliberal age*. Ithaca: Cornell University Press; 2008.
- 699  
700  
701  
702 [22] Cook I. Follow the thing: Papaya. *Antipode* 2004; 36(4):642-64.  
703  
704  
705  
706  
707  
708

709  
710  
711 [23] Asian Development Bank (ADB). Economics of Fisheries and Aquaculture in the Coral  
712 Triangle. Asian Development Bank, Mandaluyong City, Philippines; 2014.  
713

714  
715  
716 [24] Pomeroy R, Garces L, Pido M, Silvestre G. Ecosystem-based fisheries management in  
717 small-scale tropical marine fisheries: emerging models of governance arrangements in the  
718 Philippines. *Marine Policy* 2010; 34(2):298-308.  
719  
720

721  
722 [25] Carpenter KE and Springer VG. The Center of the Center of Marine Shore Fish  
723 Biodiversity: The Philippine Islands. *Environmental Biology of Fishes* 2005; 72:467–480.  
724  
725

726  
727 [26] Anticamara JA and Go KTB. Spatio-Temporal Declines in Philippine Fisheries and its  
728 Implications to Coastal Municipal Fishers' Catch and Income. *Frontiers in Marine Science*  
729 2016; <http://dx.doi.org/10.3389/fmars.2016.00021>  
730  
731  
732

733  
734 [27] Trinidad AC, Albert J, Palma J, Matillano M, Boso D, Gaudiano JP, Manul J. Fisheries  
735 value retention in the coral triangle for highly traded commodities. In: Asian Development  
736 Bank. Economics of fisheries and aquaculture in the coral triangle. Manila: Asian  
737 Development Bank, 2014, p.107–140.  
738  
739

740  
741 [28] Fabinyi M, Dressler W and Pido M. Fish, trade and food security: moving beyond the  
742 'availability' discourse in marine conservation. *Human Ecology* 2017; 45(2):177-188.  
743  
744

745  
746 [29] Segi S. "Losing at Sea, Winning on Land": A Case Study of Philippine Small-Scale and  
747 Industrial Fisher Resource Competition. *Society and Natural Resources* 2014; 27:1227-1241.  
748  
749

750  
751 [30] Russell SD, Alexander RT. 'Of Beggars and Thieves: Customary Sharing of the Catch  
752 and Informal Sanctions in a Philippine Fishery.' In Durrenberger, EP and King, TD (eds),  
753 State and Community in Fisheries Management: Power, Policy and Practice. Westport (CT):  
754 Bergin & Garvey; 2000.  
755  
756  
757  
758  
759  
760  
761  
762  
763  
764  
765  
766  
767

768  
769  
770 [31] Dumont J-P. Visayan Vignettes: Ethnographic Traces of a Philippine Island. Chicago:  
771  
772 University of Chicago Press; 1992.  
773

774  
775 [32] Pollnac RB, Pomeroy RS, Harkes IHT. Fishery Policy and Job Satisfaction in Three  
776  
777 Southeast Asian Fisheries. *Ocean & Coastal Management* 2001; 44:531–44.  
778

779  
780 [33] Acebes JMV, Tull M. The History and Characteristics of the Mobulid Ray Fishery in the  
781  
782 Bohol Sea, Philippines. *PLoS ONE* 2016; 11(8): e0161444.  
783

784  
785 <https://doi.org/10.1371/journal.pone.0161444>  
786

787  
788 [34] Weeratunge N, Snyder KA, Sze CP. Gleaner, fisher, trader, processor: understanding  
789  
790 gendered employment in fisheries and aquaculture. *Fish and Fisheries* 2010 11(4):405-20.  
791

792  
793 [35] Kleiber D, Harris LM, Vincent AC. Gender and small-scale fisheries: a case for counting  
794  
795 women and beyond. *Fish and Fisheries* 2015 16(4):547-62.  
796

797  
798 [36] Kruijssen F, Rajaratnam S, Choudhury A, McDougall C and Dalsgaard JPT. Gender in  
799  
800 the farmed fish value chain of Bangladesh: A review of the evidence and development  
801  
802 approaches. Penang, Malaysia: WorldFish. Program Brief: 2016-38; 2016.  
803

804  
805 [37] Russell SD, Poopetch M. Petty commodity fishermen in the inner Gulf of Thailand.  
806  
807 *Hum. Organ.* 1990; 49(2):174-187.  
808

809  
810 [38] Butcher JG. *The Closing of the Frontier: A History of the Marine Fisheries of Southeast*  
811  
812 *Asia c. 1850–2000.* Singapore: Institute of Southeast Asian Studies; 2004.  
813

814  
815 [39] Bogard JR, Farook S, Marks GC, Waid J, Belton B, Ali M, et al. Higher fish but lower  
816  
817 micronutrient intakes: Temporal changes in fish consumption from capture fisheries and  
818  
819 aquaculture in Bangladesh. *PLoS ONE* 2017; 12(4): e0175098.  
820

821  
822 <https://doi.org/10.1371/journal.pone.0175098>  
823  
824  
825  
826



- 827  
828  
829 [40] Padilla JE, Mamauag S., Braganza G., Brucal N, Yu D., Morales A. ‘Sustainability  
830 Assessment of the Live Reef-Fish for Food Industry in Palawan Philippines.’ Quezon City:  
831 WWF–Philippines; 2003.  
832  
833  
834  
835  
836 [41] Verité. Research on Indicators of Forced Labour in the Supply chain of tuna in the  
837 Philippines. [https://www.verite.org/wp-content/uploads/2016/11/Research-on-Indicators-of-](https://www.verite.org/wp-content/uploads/2016/11/Research-on-Indicators-of-Forced-Labor-in-the-Philippines-Tuna-Sector_9.16.pdf)  
838 [Forced-Labor-in-the-Philippines-Tuna-Sector\\_9.16.pdf](https://www.verite.org/wp-content/uploads/2016/11/Research-on-Indicators-of-Forced-Labor-in-the-Philippines-Tuna-Sector_9.16.pdf); 2016 (accessed 20/12/2017)  
839  
840  
841  
842  
843 [42] Fabinyi M. 2012. Fishing for Fairness: Poverty, Morality and Marine Resource  
844 Regulation in the Philippines. Canberra: ANU Press; 2012.  
845  
846  
847  
848 [43] Blanc-Szanton MC. A Right to Survive: Subsistence Marketing in a Lowland Philippine  
849 Town. University Park (PA): Pennsylvania State University Press; 1972.  
850  
851  
852  
853 [44] Miller AMM, Bush SR, Mol APJ. Power Europe: EU and the illegal, unreported and  
854 unregulated tuna fisheries regulation in the West and Central Pacific Ocean. *Mar. Policy*  
855 2014; 45, 138–145.  
856  
857  
858  
859  
860 [45] Fabinyi M. Historical, Cultural and Social Perspectives on Luxury Seafood  
861 Consumption in China. *Environmental Conservation* 2012; 39(1): 83-92.  
862  
863  
864  
865 [46] Gutierrez NL, Defeo O, Bush SR, Butterworth DS, Roheim CA, Punt AE. The current  
866 situation and prospects of fisheries certification and ecolabelling. *Fish. Res.* 2016; 182:1–6.  
867  
868  
869  
870 [47] Ponte S. The Marine Stewardship Council (MSC) and the Making of a Market for  
871 ‘Sustainable Fish’. *Journal of Agrarian Change* 2012; 12: 300–315.  
872  
873  
874  
875 [48] Scholtens J, Bavinck M. Oceans’ contribution to food security of the poor: confronting  
876 ominous trends. *Current Conservation* 2017; 11(2): 3-8.  
877  
878  
879  
880  
881  
882  
883  
884  
885

886  
887  
888 [49] Ratner BD, Allison EH. Wealth, rights, and resilience: an agenda for governance reform  
889 in small-scale fisheries. *Development Policy Review* 2012; 30:371-398.  
890  
891

892  
893 [50] Ruddle K, Davis A. Human rights and neo-liberalism in small-scale fisheries: Conjoined  
894 priorities and processes. *Marine Policy* 2013; 39:87-93.  
895  
896

897  
898 [51] Song A. How to capture small-scale fisheries' many contributions to society?–  
899 Introducing the 'value-contribution matrix' and applying it to the case of a swimming crab  
900 fishery in South Korea. In Johnson D, Acott TG, Stacey N, Urquhart J. *Social Wellbeing and*  
901 *the Values of Small-scale Fisheries*. Springer: Dordrecht; 2018.  
902  
903  
904  
905

906  
907 [52] Song AM, Chuenpagdee R. Eliciting Values and Principles of Fishery Stakeholders in  
908 South Korea: A Methodological Exploration. *Society & Natural Resources* 2015; 28(10):  
909 1075-1091.  
910  
911  
912

913  
914 [53] Van Holt T, Weisman W, Johnson JC, Käll S, Whalen J, Spear B, Sousa P. A social  
915 wellbeing in fisheries tool (SWIFT) to help improve fisheries performance. *Sustainability*  
916 2016; 8(8):667.  
917  
918  
919  
920

921  
922 [54] Bailey M, Bush S, Oosterveer P, Larastiti L. Fishers, fair trade, and finding middle  
923 ground. *Fisheries Research* 2016; 182:59-68.  
924  
925  
926

927  
928 [55] Jentoft S, Chuenpagdee R, Barragán-Paladines MJ, Franz N. *The Small-Scale Fisheries*  
929 *Guidelines: Global Implementation*. Springer: Dordrecht; 2017.  
930  
931

932  
933 [56] Kittinger JN, Teh LC, Allison EH, Bennett NJ, Crowder LB, Finkbeiner EM, Hicks C,  
934 Scarton CG, Nakamura K, Ota Y, Young J. Committing to socially responsible seafood.  
935 *Science* 2017; 356(6341):912-3.  
936  
937  
938  
939  
940  
941  
942  
943  
944

945  
946  
947 [57] Barrientos S, Gereffi G, Rossi A. Economic and social upgrading in global production  
948 networks: A new paradigm for a changing world. *International Labour Review* 2011;  
949  
950  
951 150(3-4):319-40.  
952

953  
954 [58] Charles AT. Small-scale fisheries: on rights, trade and subsidies. *Marit Stud*  
955  
956 2011;10(2):85–94.  
957

958  
959 [59] von Moltke A (editor). *Fisheries subsidies, Sustainable Development and the WTO*.  
960  
961 London and New York: Routledge; 2014.  
962

963  
964 [60] Sen A. *Development as freedom* (1st ed.). New York: Oxford University Press; 1999.  
965

966  
967 [61] Li TM. *The Will to Improve: Governmentality, Development, and the Practice of*  
968  
969  
970  
971  
972  
973  
974  
975  
976  
977  
978  
979  
980  
981  
982  
983  
984  
985  
986  
987  
988  
989  
990  
991  
992  
993  
994  
995  
996  
997  
998  
999  
1000  
1001  
1002  
1003