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2 frontier of Palawan province, Philippines. *Singapore Journal of Tropical Geography*.

3 **1. INTRODUCTION**

4 Globally, state and private sector investments are intensifying the control, extraction and
5 contestation over natural resources in ‘frontiers’. Frequently, frontiers are conceived of as
6 discursively and materially produced spaces experiencing intense transitions, where
7 seemingly remote regions are empty, yet full and ripe for the production and expansion of
8 capital (Barney 2009; Moore 2015). Control and authority over resources in these spaces is
9 redefined by those with power, with significant impacts and consequences for poor resource
10 users and their environments (Rasmussen and Lund 2017). Yet much discussion concerning
11 such frontiers has been about surplus land, the conversion of forest for timber, or landscapes
12 being opened for minerals or sown for boom crops (Borras et al. 2011; Peluso and Lund
13 2011; Fairhead et al. 2012). In effect, frontiers are often valorised as quintessential land-
14 based territories, where agrarian smallholders serve as symbolic markers of settler expansion,
15 control, and productivity in the national interest. Much research in critical political ecology
16 has followed suit, examining the political and economic factors of the production,
17 contestation and transformation of frontiers (Peluso and Lund 2011; Fairhead et al 2012).
18 However, much less research emphasis has been placed on how politically, economically and
19 ecologically connected coastal regions are also undergoing intense and rapid transformations
20 (Campling et al. 2012; Crona et al. 2016). In many respects, marine enclosures, extractive
21 zones and commodities production are part of frontier transitions as much as boom crops are
22 in the interior. Yet compared to the agrarian smallholder cousin, the poor coastal fisher is the
23 less visible ‘surplus migrant’ arguably left out of the popular frontier imaginary. In the Asia-
24 Pacific, in particular, new economic powers such as China have increased demand for

25 imported seafood from across the region, including prawns, live reef food fish, tuna, shark fin
26 and sea cucumber (Fougères 2008; Barclay 2010; ADB 2014; Eriksson et al. 2015).
27 Aquaculture is growing rapidly (Belton & Thilsted 2014) and regional trade agreements drive
28 further seafood trade (Gephart & Pace 2015). At the same time, governance trends such as
29 certification and enclosures are intensifying (Segi 2014a; Foley and Havice 2016) under the
30 theme of 'blue growth' (Barbesgaard 2016).

31 In the context of commodity frontier analysis, however, further research into the social
32 dynamics of fisheries trade is needed. While there is a considerable literature documenting
33 the rapid expansion of seafood trade, the vast majority of this comes from the environmental
34 or economic sciences. Much environmentally orientated literature tends to focus on
35 measuring the impacts of fisheries trade on stocks (e.g. Cinner et al. 2013; Pauly & Zeller
36 2016), highlighting the negative consequences for fishing livelihoods and sometimes
37 subsequently calling for restricted fishing access rights (e.g. Vincent and Harris 2014). Other
38 studies have used aggregated trade data to assess the range of costs and benefits of seafood
39 trade for the coastal poor (e.g. Kurien 2005; Béné et al. 2010; Gephart & Pace 2015). Such
40 macro-scale approaches have inherent limitations when addressing the highly differentiated
41 outcomes for the coastal poor associated with expanding seafood trade. And although there is
42 a large literature in maritime anthropology that examines access at a micro-scale in particular
43 cases (e.g. Haller & Merten 2008; Coulthard 2011; Jentoft & Eide 2011; Knudsen 2016),
44 these studies are rarely connected to the broader context of expanding commodities in coastal
45 frontiers (Campling 2012). Political-economy orientated literature highlights the structural
46 conditions underlying expanded seafood trade (e.g. Mansfield 2004; Campling 2012; Longo
47 et al. 2015; Saguin 2015), but understandings of the socio-political substance of access
48 dynamics in specific contexts and how these relate to expanding seafood trade remain limited
49 (Crona et al. 2016). This paper thus further contributes to such understandings by asking how

50 social relations of ethnicity and class at the micro-scale affect access to the production of
51 seafood, and how these social relations link with political-economic processes of migration
52 and land-use change occurring at wider historical and geographical scales.

53 In this paper, we take a scaled political ecology approach (Perreault et al. 2015) to examine
54 how access unfolds at the ‘extractive ends’ of seafood trade in the coastal frontiers of
55 Palawan province, the Philippines. We focus on the interrelations of two scales: ethnicity and
56 class relations at the local scale, and geographic and historical contexts at the regional scale.
57 As an archipelagic nation, the Philippines has high economic reliance on marine resources
58 and high involvement in transnational seafood commodity chains. From the 1950s, Philippine
59 fisheries underwent a massive expansion (Butcher 2004). Large numbers of people also
60 moved to the coasts to fish for their livelihood in commercial and small-scale sectors, fuelling
61 the country’s major fish export market (Seki 2004; Eder 2009; ADB 2014). Capture fisheries
62 alone provide direct employment for at least 1.5 million people in the Philippines, and are
63 worth at least USD2.5 billion annually (ADB 2014: 23-24). At the same time, fish stocks are
64 declining, and the country’s fisheries are now considered to be in crisis (Muallil et al. 2014),
65 putting significant stress on fishing livelihoods. As we show, other recent societal changes
66 such as land-use intensification further pressure fishers in coastal areas. Access analysis is
67 thus particularly important to understand the intersectional nature of these scales.

68 We focus on the province of Palawan as a fast-filling maritime frontier space. While seafood
69 commodities have long been internationally traded from Palawan, these connections have
70 been magnified with the intensifying nature of globalisation. Since the 1950s, Palawan has
71 been a prime target for migration, upland resource extraction and major expansion of
72 commercial fishing enterprises (Butcher 2004; Eder and Evangelista 2014). Recently, it has
73 also undergone growing investments in land and tourism. Migrant fisher populations from

74 other provinces and indigenous peoples co-exist in these rapidly changing areas, and now
75 experience tourism expansion and palm oil production that claim peri-coastal lands,
76 squeezing resident access to marine-based livelihoods. As multiple actors scramble to control
77 and obtain value from both marine and terrestrial resources in this frontier zone (Rasmussen
78 and Lund 2017), competition over progressively more scarce resources intensifies with
79 strongly differentiated outcomes. In making the notion of access via social relations set in
80 time and space explicit, the case of Palawan and San Vicente municipality highlights how
81 access to fisheries trade is influenced by a complex set of challenges and opportunities
82 situated at multiple scales. We illustrate how the value produced along these commodity
83 chains is accessed and used according to rural actors' ethnicity and class positioning over
84 time and space.

85 **2. ACCESS DYNAMICS IN COASTAL FRONTIERS**

86 As with land-based frontiers, coastal frontiers are similarly discursive and material spaces
87 undergoing rapid 'maritime transitions' (Fougères 2008; Belton and Thilsted 2016),
88 exemplified by intensifying contestations over access to the production, exchange and use of
89 highly-valued marine resource commodities. As emergent, highly politicized spaces,
90 capitalist expansion and resource production run in parallel to, and are interconnected with,
91 similar political and economic process of change in hinterland areas, where coastal land
92 areas, near-shore and far-shore spaces are appropriated as enclosures for resource control and
93 expansion (Pinkerton and Davis 2015; Saguin 2015). Yet the political ecology of such
94 maritime transitions in coastal frontiers remains understudied, particularly concerning how
95 coastal institutions, micro-politics, and economic change influence marine resource access
96 and use over time and space.

97 Central to such analysis of how the institutions that govern marine resource access and use
98 are re-defined is a scaled, critical understanding of how rural actors mediate the costs and
99 benefits of rapidly growing seafood commodity chains in such frontiers. Our aim is to shift
100 the focus from economic and environmental perspectives to a more critical social analysis on
101 the access and use dynamics in seafood value chains in coastal frontiers undergoing rapid
102 change. We draw explicitly on the concept of ‘access analysis’ to focus on how individuals or
103 groups gain, control or maintain ‘the ability to benefit from things’ in coastal environments
104 (Ribot 1998; Ribot & Peluso 2003). Ribot and Peluso (2003) defined nine ‘mechanisms’ of
105 access to natural resources: rights-based, technology, capital, markets, labour, knowledge,
106 authority, identities, and social relations. Rather than drawing on Ribot and Peluso’s (2003)
107 entire framework, we specifically engage how class and ethnic relations influence access
108 dynamics at local and regional scales of analysis. We choose these aspects because they are
109 most salient and consequential for the coastal poor on Palawan Island.

110 Our emphasis on multiple scales aims to move beyond the existing methodological emphasis
111 in the literature on seafood trade to focus either at the national or local level (Crona et al.
112 2016: 1). In recognising that the concept of scale itself is not a pre-given, fixed entity, we
113 align with others in highlighting the socially produced and politically contested nature of
114 ‘scale’ (Swyngedouw and Heynen 2003; Neumann 2009). Long-standing work in political
115 ecology has shown, for example, how political economic structures and influences vary
116 across scale and shape resource access and use, as well as ecological change (Paulson and
117 Gezon 2005; Perreault et al. 2015). We emphasise how access dynamics are constituted by
118 way of ethnicity and class through historical and contemporary processes interacting at
119 multiple scales. At the local scale – roughly equivalent to a local village or community –
120 social relations of class and ethnicity serve as important markers of difference that inform
121 control over access to fisheries resources. Here we emphasise how poor fishers with

122 contrasting ethnicities, social histories and livelihoods actively work social relations to gain
123 access to marine resources once out of reach. In this respect, how much a poor fisher invests
124 in social relations matters as much as they invest in their livelihood portfolio and other
125 natural resources (Berry 1989). At a regional scale—roughly equivalent to the province—
126 societal changes include patterns of land use change that shape the broader geographical
127 context in coastal areas, and patterns of migration from across the country that form the
128 historical context and ultimately, the contemporary dynamics in coastal Palawan.

129 By extension, our analysis engages with recent accounts of ‘exclusion’ in the context of
130 commodity expansion in Southeast Asia (Hall et al. 2011). Hall et al. develop four ‘powers of
131 exclusion’ that affect access dynamics in rural contexts: regulation, force, the market, and
132 legitimation. All four drive exclusion to affect access dynamics in varying degrees: the rules
133 regarding access, threats to enforce those rules, costs steering access, and the socio-political
134 basis of controlling access. Our use of the term ‘access dynamics’ thus encompasses both
135 ‘access mechanisms’ and ‘exclusion’. While not deterministic, these access dynamics heavily
136 influence the extent to which fishers succeed in fisheries trade. Our argument is that an
137 investigation of these access dynamics operating at multiple scales is crucial to understand
138 the differentiated outcomes of fisheries trade for coastal residents.

139 We examine how local social relations and broader societal changes affect access not in terms
140 of ‘formal correlations’ (see Kurien 2005; Béné et al. 2010; Hicks & Cinner 2014) but in
141 terms of direct and indirect influences from near and afar. Rather than looking for universal
142 links between increased trade and livelihoods, we instead consider how different social
143 groups engage in fisheries trade over time. This means examining how the poor engage in
144 small-scale fishing practices at the nexus of local and regional processes, to encompass those
145 distal pressures that are seemingly less relevant and visible (Coe et al. 2008). At the local
146 scale, we focus on how fishers differentiated by class and ethnicity are able to engage in

147 fisheries trade over time. At the regional scale, we show how these engagements are shaped
148 by broader historical and geographical contexts.

149 **3. METHODS**

150 This paper draws on fieldwork from 2014-2015 in the municipality of San Vicente, Palawan
151 (Figure 1). As a municipality with multiple ethnic groups formed over a long history of
152 migration, with multiple frontier processes (e.g. fisheries investments and trade, new fisheries
153 regulations, tourism and coastal developments) currently unfolding, San Vicente represented
154 an ideal location for our research as. In August 2014, we conducted 15 interviews in two
155 communities, and three focus groups. The two communities were chosen as, taken together,
156 they represented a socially and economically diverse set of coastal households in San
157 Vicente. Because ethnicity was a focus of our analysis, focus groups were conducted with the
158 major different (self-identified) ethnic groups resident in the area (Agutaynen and Cuyonon,
159 Tagbanua, Visayan). These focus groups were held in public locations such as the basketball
160 court, and discussion centred around community-scale histories of land-use change,
161 migration, the historical development of the fishing economy, and ethnic patterns of resource
162 use. In 2015, we conducted a further 34 interviews and 28 interviews with households in June
163 and November, respectively. The topics for the interviews in 2015 focused on life histories of
164 fishers and fishing households, possession of assets and livelihood strategies, and social
165 differentiation within coastal communities. Income class was not explicitly considered in
166 these interviews as a discrete variable; instead, class was described and observed through
167 descriptions of experiences, household assets and fish catches. Interviews were conducted in
168 Filipino, the *lingua franca* of each community. Informed consent was obtained from all
169 interviewees, and interviews were conducted in the home of the interviewee. Interviewees
170 were selected through stratified sampling to include households of different ethnicity, class,

171 and livelihood strategy (e.g. different types of fishing gears). Our main focus in using these
172 methods is how access and use differentiates in terms of ethnicity and class relations.

173 In addition to household interviews where we discussed the specific experiences and views of
174 households, we also interviewed key informants such as older residents and government
175 officials to obtain information on historical and other general trends occurring in each
176 community and the municipality. Detailed fieldnotes were taken each day during fieldwork,
177 and these fieldnotes were subsequently manually qualitatively analysed for key themes that
178 emerged (Bernard, 2006). We use other published historical and ethnographic material from
179 Palawan province (and around the country) to complement our analysis, reinforcing that the
180 trends we discuss are becoming increasingly common. And while this analysis is primarily
181 based on a discrete set of interviews in one municipality, it also builds on each author's long-
182 term field experience in other parts of Palawan province (see, e.g. Pido 1995; Dressler 2009;
183 Fabinyi 2012).

184 **4. REGIONAL SCALE**

185 Geography, history, and social context all converge to condition access to fisheries trade
186 among the coastal poor on Palawan. This section outlines how migration, agrarian change
187 and social relations have unfolded and changed over time at a regional scale in coastal
188 Palawan, with reference to access to fisheries.

189 **4.1 Geographical and historical context**

190 Coastal Palawan has witnessed progressive settlement by different groups during the 20th
191 century. Originally inhabited by Tagbanua (in the northern and central parts of the province),
192 Batak (central), Pala'wan (central-southern parts), and Molbog, other ethno-linguistic groups
193 settled along the coasts for economic opportunities (Eder 2009). The first 'wave' of migration

194 came during the late nineteenth and early twentieth centuries from Cuyo and Agutaya, islands
195 lying to the northeast of Palawan Island (Eder 2004). Since the 1950s and 1960s, migrants
196 have increasingly settled from diverse locations around the country, particularly the central
197 island group known as the Visayas, which includes major islands such as Cebu, Negros,
198 Bohol, Leyte and Samar. This migration to Palawan coincided with a rapid expansion of
199 fisheries production in both the small-scale and commercial fishing sectors in Palawan, which
200 rapidly became one of the leading sources of fish in the country (Butcher 2004).

201 Recently, the coastal regions of the province have experienced a further intensification of
202 different types of fisheries trade. For example, investments from East Asia beginning in the
203 late 1980s and increasing rapidly from the 2000s have led to Palawan being the national
204 centre for the lucrative trade in live reef food fish, exported to China to meet growing middle
205 class demand (Fabinyi 2012). Other important international seafood exports from Palawan
206 include chilled groupers, sea cucumbers, squid and crustaceans. Major commercial fisheries
207 operating in Palawan waters include purse seines for tuna, liftnet boats for scads and
208 anchovies, and large-scale net fishing and spearfishing boats for mixed reef fish. Flanking
209 and penetrating the coastal areas now is the spread of mining and boom crop expansion (Eder
210 & Evangelista 2014). At the same time, public and private actors are heavily promoting
211 coastal tourism, with significant public and private investments in airports, hotels and other
212 tourism infrastructure. And tourism expansion is closely linked to the expansion of
213 environmental conservation in both marine and terrestrial spaces (Fabinyi 2010; Dressler
214 2011). In all of these sectors, control over natural resources is heavily contested by multiple
215 actors with different visions of the frontier. Palawan's coastal frontier is thus rapidly filling in
216 with diverse actors who live in the same spaces and compete over access to new lucrative
217 forms of marine resource use.

218 **FIGURE 1: PALAWAN PROVINCE, PHILIPPINES**

219 4.2 Social Relations

220 In the coastal areas of Palawan, social relations of class¹ and ethnicity² have played a vital
221 role in coastal peoples' capacity to negotiate access and use marine resources. Settlement
222 patterns in Palawan intersected with long-established ethnic categories and the social
223 relations that influenced claims over access to and use of land and coastal resources.

224 Spanish and American colonial regimes helped construct the social binaries of lowlanders
225 and uplanders that affected social ties, networks and trade dynamics. As the Spaniards first
226 began proselytization among lowland peoples they faced difficulty converting others who
227 upheld their own custom by living in, or retreating to, the uplands. Social discrimination and
228 divisions reinforced subsequent social divisions and hierarchies between 'advanced'
229 Christian lowlanders and 'primitive' tribal uplanders along socio-spatial lines (see Abinales,
230 2000; Dressler 2009). Along the coastal plains, lowlanders were cast as productive farmers in
231 line with the state, and Church, whereas uplanders were cast as pagan and backward. The
232 coastal poor often tended to be Christian, but there were also those 'in the middle', whose
233 ethnicity and class position was varied and constituted from different social groups who
234 progressively filled in the coastal zone. Indeed, since their colonial inception, these broader
235 categories tended to belie significant ethno-linguistic diversity across the islands. Yet while
236 the blurring of ethnic categories continues to unfold, the veneer of constructed categories

¹ While noting that 'class' is complex with myriad influences (Kerkvliet 1990; Eder 2009), we privilege a definition of class as socio-economically constituted through relations of production and exchange, based on access to and use of natural resources (fish), assets (fishing gear, land etc) and income (from fisheries, farming, wage labour, remittances) (Wright 2005).

² Although significant ethnic diversity exists among migrant groups (Eder 2004), our use of ethnicity is meant to highlight the broader socio-political and cultural differences between indigenous (Tagbanua) and migrant groups. We argue that ethnicity rests in the experiences of social life and differential access to opportunities that groups in power control and exploit (Wilmsen, 1989). The process by which groups identify as indigenous reflects a 'positioning' (Li, 2000: 151), which draws upon the meanings and context of struggles against the 'positions' of others in power.

237 harden and take on greater socio-political significance through contested claims over access
238 to natural resources.

239 Our main focus is on coastal residents that come from a wide variety of locations across the
240 Philippines. Access to productive resources is relatively unfettered for longer-term residents
241 of the same group, where group membership is defined by ethnolinguistic traits, common
242 (blood) lineage, and length of residency. Outsider access to and use of resources claimed by
243 another group are weakest among new arrivals with different ethnolinguistic backgrounds
244 (Dressler 2009; Knudsen 2012). However, access and use rights—and the institutions
245 influencing them—are seldom ‘closed’ definitively. Those outsiders who form social
246 relations with neighbouring groups, through marriage or labour relations, eventually secure
247 new social and economic opportunities (Dressler & Fabinyi 2011).

248 In many coastal and upland areas livelihood dynamics overlap, unsettling older social
249 divisions between upland farmer and coastal fisher (Pido 1995; Eder 2003). Many households
250 living along the coastal-upland gradient will turn to clear plots near or on the coast, where
251 proximity generates new access opportunities in fisheries. In Palawan, many farmers who
252 face declining crop yields work social networks to adopt fishing as a supplemental activity
253 and then perhaps fulltime, stating it produces money more quickly than the low yields of
254 upland areas (Dressler & Fabinyi 2011). However, the more (indigenous or otherwise) upland
255 farmers move to the coast amidst Visayan fishers, the potential for competition over scarce
256 resources increases between contrasting ethnic groups. The following section explores in
257 detail the different ways in which households in San Vicente have been able to access
258 fisheries trade in terms of class and ethnicity, and then discusses examples of fisheries
259 exclusions.

260 **5. LOCAL SCALE**

261 **5.1 Class relations, ethnicity and access to fisheries**

262 In San Vicente there are a range of small pelagic and demersal fish (e.g. scads, ponyfish,
263 mackerel) that are caught and traded within the Philippines. Squid and live groupers are two
264 export fisheries that have expanded with significant investments from East Asian traders
265 since the late 1990s (Table 1).

266 **[Insert Table 1 here].**

267 **Table 1: Major fishing activities and patterns of trade in San Vicente, Philippines.**

268 **Source: Authors' fieldwork 2014-2015.**

269 Access to and use of capital for fishing is differentiated in terms of class and ethnicity. We
270 discuss lesser to greater degrees of differentiation and show how migrant and indigenous
271 fisher families work social relations to access and use capital for fishing. Table 2 provides a
272 sketch of the three different classes we discuss. The terms 'more recent migrants' and 'settled
273 migrants' are overlapping categories but refer broadly to periods marking the first period of
274 intense migration to San Vicente from the 1950s through to the 1970s, and those that came
275 afterwards. More important than the specific date of arrival, however, is whether they have
276 been able to establish over time assets such as land and productive social relations.

277 **[Insert Table 2 here]**

278 **Table 2: Class and ethnic differentiation in San Vicente, Palawan.**

279 **Source: Authors' fieldwork 2014-2015**

280 *5.1.1 Lower class*

281 The poorest, lower income households are fishers with few or no capital assets (see Table 1).
282 Typically residing in beach or foreshore areas with no formal tenure, these fishers will use

283 hook and line or other simple gears on small, simple boats without engine, fishing for hours
284 at a time in calmer inshore waters. Start-up costs are minimal, ranging from USD21-42, and
285 average trips will cost only USD2-4. On these trips they will likely only catch between 5-
286 10kg of lower-value fish such as threadfin bream (*Nemipterus*) that are sold at USD0.50-
287 1.60/kg. Others in a similar situation will work as crewmembers for other larger boats, and
288 will obtain a much smaller share of the profits compared to boat-owners. Such poorer
289 households will however occasionally retain swidden plots (.25 - .5 ha) further in the uplands,
290 often far removed from flatter more productive paddy rice lands (claimed by tenured
291 migrants) already occupying most if not all arable lowland areas.

292 These households will either be very recent poor arrivals co-residing with other poor Visayan
293 fishers, or indigenous Tagbanua. In time, a shared sense of poverty and experiences of
294 hardship among Tagbanua and Visayan fishers may develop and center on collective self-
295 identification as *katutubo* – or being indigenous, innate – particularly in the context of
296 intermarriage. Living with degrees of reciprocity, sharing experiences, and learning from one
297 another, these families place less emphasis on difference than commonality, though social
298 differences are often still articulated through contrasting material culture and social behaviour
299 (Dressler & Turner, 2008). They own few significant material assets and so rely heavily on
300 their own labour and social networks to secure marine products. In both communities we
301 studied, their households cluster together in the same hamlets. As elsewhere in Palawan,
302 Tagbanua especially are significantly marginalised, with considerable levels of poverty in
303 each community we worked in. While initial livelihoods have lower levels of diversification,
304 particularly for younger or older-aged households, the suite of diversification expands as a
305 risk spreading and coping strategy.

306 A key means by which people in this notional class position begin to access the fisheries
307 trade is by way of networked social relations: immediate family, other relatives, neighbours

308 and friends are vitally important in acting as the means by which households can access the
309 capital and support to enter into a fishing operation (e.g. Seki 2004). Nathan, for example,
310 was a maize farmer who left Quezon province due to violence with insurgent groups, and
311 migrated to San Vicente in 1986. His cousins and uncles had already arrived some time
312 earlier, and were a crucial socio-economic lifeline when he first arrived. His relatives
313 provided him with employment options on a net fishing boat, where he then worked for the
314 first several years after arrival. After some years of gradually building up savings, he was
315 able to buy his own net, again with support from a small loan from his relatives. He now
316 owns two boats, fishing regularly on one with his son. He hires the other out to neighbours,
317 and receives 50% of the profits. Social networks are thus a key means to access fisheries,
318 especially for recent migrants. Yet as Nathan's experiences indicate, it takes a long time to
319 successfully transition to a notionally higher-class position with potentially more income and
320 assets. Crucially, those Tagbanua and poorer Visayans without strong social networks will be
321 excluded from these means of production and the prospect of greater wealth generation.

322 *5.1.2 Middle class*

323 Moderately poor, middle-income fisher households will own a boat with an engine: using
324 bottom-set gillnets and driftnets for the capture of small pelagic fish, using squid jigs to
325 capture squid, or hook and line to capture live grouper. Start-up costs for these sorts of boats
326 will be between USD1500-4300, and trip costs will range from less than USD5 to more than
327 USD60 (Table 1). The returns from fishing with these more technologically advanced boats
328 are also greater – fishers are able to capture greater numbers of pelagic fish in the case of
329 nets, or higher-value products in the case of boats with engines fishing for live grouper and
330 squid.

331 Households with these boats will often rent them out, and may gradually capitalise their
332 enterprise with new technology and boat crew. Such households have a broader repertoire of
333 livelihood activities that tend to be more capital dependent, and are more likely to hold
334 formal land title that is under intensified commercial agriculture (e.g. paddy rice). They are
335 predominantly settled migrants, and tend to co-mingle more with other migrants and less so
336 with indigenous peoples.

337 Fishers may transition from a notionally lower to middle class position over the course of a
338 working life, as with Nathan, or they may obtain credit from local traders. In particular, this is
339 common in fishing for live grouper, because many of the traders in San Vicente are agents of
340 fish exporters based in Manila (who receive funding from companies in Hong Kong or
341 China), and thus have the capital to extend credit. The extent of financing can include capital
342 to go on a fishing trip (USD60 for fuel and supplies for several days at sea), or even the entire
343 boat and engine (USD1500-4300). Traders will sometimes provide fishers not only with the
344 capital required to go fishing, but also with financial support for personal expenses,
345 especially during periods of financial difficulty or bad weather.

346 Garnering close social ties amongst wealthier fishers and financiers facilitates such access
347 opportunities (Ribot & Peluso 2003). Fishers have to invest in these relationships and build
348 up trust with traders before they qualify for loans, as one trader noted: ‘we have to know the
349 fisher well before we give them money for expenses, especially if we give them capital for a
350 boat and engine. Too many fishers just don’t pay the money back or give their fish to other
351 traders, so we have to be careful’. Rodrigo, for example, was a fisher who owned his own
352 boat and engine, but lacked the capital to go on fishing trips for live grouper. Through
353 financing from a live grouper trader based in town – introduced to him by a neighbour who
354 was already being financed by this trader – he was able to use his boat for regular live
355 grouper fishing trips from 2003, and subsequently gain more income. Without this financing,

356 he claimed, he would be forced to do fishing activities with a much lower return: as he did
357 not have the capital to buy a net, he would otherwise be using hook and line for small
358 quantities of lower-valued fish such as threadfin bream. There is no formal interest on these
359 loans by traders to fishers, but fishers who are financed receive a lower price for their fish
360 than those who are not. Successful fishers use these loans to establish themselves as
361 independent fishers and are able to move out of financing, but other, less successful fishers
362 end up burdened by mounting debts.

363 *5.1.3 Upper class*

364 Wealthier, upper income fishers –the notional ‘upper class’–are those who own several or
365 many smaller boats, or one or more larger ring-net fishing boats, and may either be long term
366 residents or more recent arrivals with existing wealth. Start-up costs for the boats and
367 equipment required to do ring-net fishing are from USD21,000- 43,000, and such vessels will
368 catch between several hundred kgs and two tonnes of small pelagic fish on a single fishing
369 trip of several hours. Owners of these boats obtain very high returns from such fishing, which
370 has the highest catch-per-unit-effort of all the fisheries in San Vicente (Palawan State
371 University [PSU] 2011). Crews for these boats will usually be chosen from relatives,
372 neighbours and friends of the owner, which means that poorer Tagbanua and Visayan fishers
373 can struggle to negotiate the more distal social relations necessary to participate in this more
374 lucrative fishery.

375 Upper income households include long-term settled households that have built up significant
376 assets over time, including various land-based assets (multiple hectares of cash crops,
377 livestock, variety stores etc). Many are descendants of early migrants who were able to claim
378 private title over land. Evelyn, for example, was a live fish trader whose parents were among
379 the first settlers to her village in 1955, arriving from Cuyo. They acquired land at this time,

380 while also selling anchovies to itinerant traders from Manila. Using the profits from this
381 trading practice they were able to ensure Evelyn received an education, and by the early
382 2000s she was working with a large fish trading company in the provincial capital Puerto
383 Princesa. She used the savings from this work to start her own live fish trading enterprise
384 with her husband in San Vicente in 2006. Their profitable enterprise now employs eight
385 employees and finances the operations of 30 boats. Other upper income households may be
386 more recent migrants that have migrated with existing wealth. Marivel, for example, grew up
387 in Bohol in the Visayas, and found work assisting in the management of a fishing company.
388 She married a Taiwanese fishing captain, and together with capital from her husband's buyers
389 in Taiwan, they set up a squid trading operation in San Vicente in 1993. They currently
390 finance about 200 boats and ship tens of tonnes of squid each year. Few, if any, very poor
391 Tagbanua or Visayan fishers will influence how better off fishing households use their capital
392 and overall returns on catches in these areas. And none will have any clear rights over such
393 capital.

394 **5.2 Fisheries exclusions**

395 In this section we work with the counter-point of access, exclusion, to provide illustrative
396 examples of how access is differentiated in practice among the different classes of fishers
397 described in the previous section. We adapt Hall et al.'s (2011) notion of 'four powers of
398 exclusion' (regulation, the market, force³ and legitimation) to highlight how they provide
399 windows into the forms of societal changes and social relations described in earlier sections
400 of the paper.

401 *5.2.1 Regulation*

³ While violence is not uncommon in many other parts of the rural Philippines, force is not a major feature in everyday life of San Vicente, so we have not included it here.

402 Regulation of fisheries has a direct effect on influencing access dynamics in the coastal zone
403 of San Vicente, with differentiated outcomes. In the late 1990s and early 2000s, for example,
404 Eder (2009: 113-114) describes how the introduction of marine protected areas in San
405 Vicente negatively impacted poorer fishers more than they impacted richer ones. Because
406 many MPAs were created close to shore, the fishing grounds of asset poor fishers—those at
407 the margins of subsistence— were most heavily affected. Without an engine, fishers in
408 smaller paddle boats had to stay nearer to shore and a larger proportion of their fishing
409 grounds were impacted by MPA enclosures.

410 More recently in 2014 the municipal government has banned beach seining. Beach seining
411 involved laying out a large seine net in the shallow waters and then hauling it in to catch
412 various small fish. While the net owners were heavily impacted by the ban, the ban had a
413 disproportionate effect on the poorest fishers and members of the community because of the
414 distinctive fishing method of beach seining. Many poorer members of the community – those
415 without regular fishing income, the elderly, women and children – would gather whenever a
416 beach seine was being layed and help to haul it in. As the haul was brought in, these extra
417 workers would take fish away for their efforts. Although these workers were uninvited, the
418 taking of fish was tolerated and seen as benefitting the wider community (see also Segi
419 2014b). Poorer residents who gained access to fish in this way would then use these fish for
420 their own consumption, or sell them locally. Banning beach seining, therefore, has meant
421 excluding access to fisheries for the poorest and most marginalised fishers in the community.

422 A second piece of regulation recently introduced is the introduction of licence fees and
423 registrations for municipal fishers. The goals of this regulation including ensuring that
424 residents of San Vicente are the only ones who can fish in municipal waters, and to generate
425 wider revenue for the local government. Permit fees for gears, fishing vessels and the use of
426 marine waters for seaweed farms were introduced, ranging from two USD upwards to tens of

427 dollars depending on the gear and vessel type. Penalties for breaking these regulations were
428 introduced in the form of fines (USD32 for a first offence). Other regulations recently
429 introduced since late 2014 include tightening the rules surrounding the live reef food fishery,
430 specifically: new minimum and maximum fish size limits, a closed season and a ban on the
431 ‘grow-out’ of juvenile fish. These regulations have had highly socially differentiated
432 outcomes on fishing effort and incomes: poorer fishers with fewer savings have been affected
433 the most. For example, some poorer fishers reported being unable to pay the license fees. The
434 new restrictions on live fish fishing meant that boat owners and crews who rely on fishing for
435 live fish during the period of the closed season would be forced to shift to other, less lucrative
436 fisheries such as threadfin bream. In particular, crewmembers in the live fish fishery tend to
437 already be among the poorest members of the community, and any reduction in income
438 would intensify their poverty. From this perspective, the impacts of fisheries regulations have
439 reinforced existing inequalities.

440 *5.2.2 The market*

441 The high growth in seafood prices, especially for squid and live reef food fish, has been for
442 many fishers a type of maritime ‘boom crop’ (Hall et al. 2011) that has in the short term
443 benefitted them greatly. The primary direct barrier to access these forms of seafood is simply
444 one of capital: those fishers with higher levels of capital and who own their boat are able to
445 obtain a far greater share of the profits than those who simply crew on the boat. Importantly,
446 as fisheries become more capital-intensive (e.g. ring-net fishing), the profit-sharing systems
447 change to favour owners over crewmembers more (Fabinyi et al. 2016). Those without
448 capital are effectively excluded from the highest levels of profit from these lucrative fisheries.
449 More indirect, however, are exclusions related to the high increase in value of another
450 market: land. In recent years local, provincial and national governments in the Philippines

451 have invested heavily in coastal tourism, seeing it as an opportunity to generate economic
452 growth and employ fishers and farmers. However, as documented in central and northern
453 Palawan (Fabinyi 2010; Dressler 2011), the potential of incorporating the poor into tourism
454 production is diminished when property values (and other commodity costs) nearest to the
455 coast increase to constrain local access. In particular, speculation can cause the value of
456 coastal lands to increase dramatically to such a level that those poor, lower income Visayan
457 and Tagbanua fishers without formal land rights (and other assets) are easily evicted to make
458 way for new, exclusive tourism infrastructure. As a consequence, poorer Visayan and
459 Tagbanua fishers may retreat inland or relocate to another less appealing coastal area that
460 make fishing livelihoods far more difficult. In contrast, those wealthier fishers with larger
461 boats and private land holdings have greater potential to use these assets to benefit from the
462 development of tourism (e.g., taking tourists out on tours, changing homes into hostels etc.).

463 Along the 14.7 km ‘Long Beach’ in San Vicente, property speculation has seen powerful
464 local politicians and others investing considerable sums of money to purchase lands for
465 anticipated tourism arrivals – according to the municipal tourism plan, annual arrivals will
466 increase to 50,000 by 2021, 500,000 by 2029 and 1 million by 2044. The official website
467 (www.sanvicente.com.ph) notes that Long Beach is ‘eyed by many tourists, investors and
468 analysts to be the next Boracay of the Philippines, the next Bali of Asia [...]’. Cleared lands
469 along the main beach and nearby have already been purchased by major property
470 development companies such as Robinsons for the anticipated development of hotels, resorts
471 and shopping malls. New infrastructure investment also includes the development of an
472 international airport, developed to facilitate tourism. Many of these lands have been literally
473 fenced off, advertising exclusion, partly denying poor fishers access to marine resources.
474 Among the Tagbanua, Visayan and Agutaynen, coastal occupants and users have either sold
475 their lands for marginal sums (compared to current property values) of money or have been

476 marginalized due to direct land sales for future tourism developments, reinforcing their social
477 position. Although widespread evictions are not yet present, those without secure tenure are
478 vulnerable.

479 *5.2.3 Legitimation*

480 Legitimation works through each of the other exclusionary powers to justify their symbolic
481 and moral appeal (Hall et al. 2011: 18). The push for tourism in the coastal Philippines, for
482 example, relies on state, municipal and private sector rhetoric that it will bring economic
483 benefits and prosperity for local residents. Tourism is depicted in policy documents of local,
484 provincial and national governments of the Philippines – as well as by environmental NGOs,
485 and in much of the marine conservation literature – as a positive economic activity that can
486 generate income, employment and sustainable livelihoods for coastal residents (e.g. Alcala
487 and Russ 2006). In many ways, the major push behind coastal tourism development is to
488 effectively expedite the modernization of rural areas and fishers. Indeed, in the Philippines
489 small-scale fisheries are frequently represented as a low-status occupation, characterised by
490 poverty, hardship and over-exploitation of the resource base (Fabinyi 2012). By extension,
491 fishers are often represented as ignorant, destructive and in need of regulation (Segi 2014a).
492 Moreover, the discourse and truth value of fisheries science is a key means by which fisheries
493 regulations are legitimised. Appeals to the sustainability of fisheries stocks were cited as key
494 reasons for the newer regulations introduced since 2014. The new regulations on the live reef
495 fish trade, for example, cite the need ‘to save, protect and conserve the degrading marine
496 resources’ in order to ‘save the industry and its stakeholders from collapse and displacement’
497 (Palawan Council for Sustainable Development 2014). Similarly, the earlier MPA initiatives
498 of the late 1990s were largely driven by environmental science (Arquiza 1999). More
499 broadly, Palawan has long promoted an image as being the ‘last ecological frontier’ and as

500 pro-environment (Dressler 2011). While these legitimations do not imply that interventions
501 aren't needed from an environmental sustainability perspective, it does mean that social and
502 political impacts of new environmental regulations can be downplayed. The technical, expert
503 knowledge deployed by local, provincial and governing organisations typically reflects the
504 'will to improve' (Li 2007), eliding questions of politics and power.

505 Legitimations are always contested, however (Hall et al. 2011: 18-19), and this is also seen in
506 San Vicente. After the ban on beach seining came into effect, owners and fishers of beach
507 seines sent a petition to local and provincial political representatives. Similarly, live fish
508 traders organised to protest the imposition of the closed season. While the beach seining
509 petition was unsuccessful, live fish traders succeeded in delaying the implementation of the
510 closed season.

511 **6. DISCUSSION AND CONCLUSION**

512 While much recent scholarly attention has focused on land-based frontier change—with
513 significant focus on land grabs and boom crop production (see Borras et al. 2011; Peluso and
514 Lund 2011; Fairhead et al. 2012)—our paper has examined similar manifestations in coastal
515 frontiers. These changes are increasingly linked to the production of marine commodities and
516 the claiming of capital and seascapes that are associated with increasing demand for imported
517 seafood from across the region (Fougères 2008; Fabinyi 2012; ADB 2014; Eriksson et al.
518 2015). The intersection of the intensifying fisheries trade and local social relations in context
519 strongly informs the political economy of who gets what, how much they get, and what they
520 do with things (Bernstein 2010); effectively, the essence of access (Ribot & Peluso 2003).

521 Palawan is a notional 'frontier' where many recent migrants move to the coast for livelihood
522 opportunities. Investments in land and infrastructure for much anticipated tourism developing
523 are unfolding, as migration continues and fisheries trade expands. Yet, the ability of fishers to

524 access the wealth generated by this fisheries trade varies considerably. Those with existing
525 wealth can use it to successfully access new fisheries opportunities such as the live fish trade.
526 In contrast, relying on their own labour and limited capital, poorer Visayan fishers work on
527 boats without engines or as crewmembers, experiencing low returns on their investments,
528 which keeps them in a vulnerable position. Indigenous Tagbanua fishers with greater access
529 to their own and kin-held usufruct land in upland areas, but equally poor, also try their luck to
530 access more lucrative fishing opportunities but often have more distal social relations to
531 negotiate. These social relations often secure the access to and use of capital and technology
532 that is needed to ensure successful seafood commodity production.

533 More broadly, then, this paper has contributed a scaled political ecology approach to the often
534 highly normative discussion surrounding the costs and benefits of expanding fisheries trade.
535 Our contribution emphasizes how the micro-social dynamics of both access to and exclusion
536 from the fisheries trade among indigenous and migrant coastal dwellers relates to the regional
537 political economy of maritime frontiers. We argue that transformations taking place at a
538 regional scale, such as increased tourism, migration and investments in fisheries, intersect
539 with local-scale relations of class and ethnicity to generate specific access dynamics that
540 heavily influence the social outcomes of expanding seafood trade. While access dynamics
541 will vary depending on context, this scaled political ecology approach builds on existing
542 accounts of fisheries trade to highlight the processes unfolding at multiple scales. From a
543 policy perspective, such an approach highlights that the question is less about whether
544 seafood trade is ‘positive’ or ‘negative’ for coastal communities, and more about how such
545 expanding trade interacts with particular social dynamics. It emphasises viewing the role and
546 perspective of fishers not only in terms of formal ‘rights’ in relation to managing expanding
547 fisheries trade – whether fishing rights or human rights (Allison et al. 2012) – but also more
548 subtle notions of access and exclusion.

549 Furthermore, there are various factors that increase the importance of a conceptual focus on
550 access and exclusion. While San Vicente fisheries so far have avoided the large-scale
551 depletions characterising much of the coastal Philippines, some fisheries are in decline (PSU
552 2012), and this is a phenomenon widespread globally (Pauly and Zeller 2016). As the broader
553 supply of marine resources become depleted and the ‘frontier closes’ (Butcher 2004),
554 competition for control over these marine resources will likely intensify (Pomeroy et al.
555 2007). As in terrestrial spaces, different land uses are intensifying near and within coastal
556 spaces, particularly tourism infrastructure, squeezing out poorer residents of the coastal zone.
557 Governance is also tightening, becoming a major driver of access dynamics in itself, and
558 migration to the coastal zone continues. In the face of these growing constraints at the
559 broader scale, social relations become key markers of difference that can harden and inform
560 levels of authority over access to resources. As the pace of these changes increase with
561 globalisation, such access dynamics will become more salient to understand social outcomes.

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727

Fishery name	Start-up costs	Cost of average trip	Targeted species	Simplified commodity chain	Range of catch and price
Hook and line (<i>Kawil</i>)	USD20-40 ⁴	USD2-4 for a day trip.	Threadfin bream (<i>Nemipterus</i>)	Fisher→Middleman→Roxas, Taytay and/or Puerto Princesa. When dried, they will reach Manila.	5-10kg, USD0.50-1.60/kg
Squid (<i>Pusit</i>)	USD1490-2130	USD2-4 expenses for an overnight trip.	Bigfin Reef Squid (<i>Sepioteuthis lessoniana</i>)	Fisher→Middleman→Agent of exporter in San Vicente→Puerto Princesa→Manila→Japan and Taiwan.	7-200kg, USD2.30-3/kg
Bottom set gillnet (<i>Palubog</i>)	USD2130-3190	USD4 expenses for an overnight trip.	Small pelagic and demersal fish	Fisher→Middleman→Roxas, Taytay and/or Puerto Princesa. When dried, they will reach Manila.	10-100kg, USD0.50-1.60/kg
Live fish (<i>Suno</i>)	USD1490-2130	USD64 expenses for a 3 day trip.	Leopard coral grouper (<i>Plectropomus leopardus</i>)	Fisher→ Agent of exporter or local trader in San Vicente→ Roxas→Manila→Hong Kong.	2-4kg, USD32-53/kg
Driftnet (<i>Palutang</i>)	USD4260	USD6.4 per trip for an overnight trip.	Small pelagic and demersal fish	Fisher→Middleman→Roxas, Taytay and/or Puerto Princesa. When dried, they will reach Manila.	20-300kg, USD0.5-1.60/kg
Ring net (<i>Talakop</i>)	USD 21,280-42,530	USD28 per trip for a trip of several hours.	Small pelagic and demersal fish	Fisher→Middleman→Roxas, Taytay and/or Puerto Princesa. When dried, they will reach Manila.	200kg-2 tonnes,

⁴ Costs were converted from Philippine Pesos (PHP) to US Dollars (USD). At the time of the last period of fieldwork in November 2015, 1USD = 47PHP.

					USD0.5- 1.60/kg
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728

729 **Table 1: Major fishing activities and patterns of trade in San Vicente, Philippines.**

730 **Source: Authors' fieldwork 2014-2015.**

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732

Class	Assets	Ethnicity
Lower	<p>Few household assets: minimal livestock, pales, buckets, machete; no formal land tenure.</p> <p>May own small dug-out, paddle-driven boat without an engine.</p> <p>Simple fishing gear: hook and line, squid jig.</p> <p>Start-up costs of USD21-42.</p>	<p>More recent migrants (occasionally intermarried with Tagbanua)</p> <p>Tagbanua.</p>
Middle	<p>Some household assets: more livestock (some raised), de facto land tenure (tax declaration).</p> <p>Will own a small boat with an engine.</p> <p>In addition to hook and line, they will have more gear: bottom-set gillnet; driftnet.</p> <p>Start-up costs of USD1489-4255</p>	<p>Settled migrants.</p>

Upper	<p>Significant household assets: household appliances (e.g. television, concrete house). Usually will hold formal land title over their household land.</p> <p>Those also involved in farming will own more livestock including water buffalo; de jure land holding in lowland and uplands.</p> <p>May own a commercial size boat and expensive gear (e.g. ring-net) that employs crew of 10-20 (startup costs of USD20,000-40,000), or will own multiple smaller boats that fish for live fish, squid.</p>	Usually settled migrants, but also migrants with existing wealth.
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734 **Table 2: Class and ethnic differentiation in San Vicente, Palawan.**

735 **Source: Authors' fieldwork 2014-2015**

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