

The political economy of fisheries co-management

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1 **The political economy of fisheries co-management: challenging the potential for success**
2 **on Lake Victoria**

3 **Fiona Nunan**

4 **Accepted manuscript: Global Environmental Change**

5 **Abstract**

6 Co-management has been adopted internationally within fisheries, bringing resource users into
7 management decision-making and action with government and other actors. Research into how
8 success of co-management arrangements can be encouraged has identified a plethora of factors,
9 such as leadership, enabling policy and legislation and clearly defined boundaries of co-
10 management structures and locations. Such research reflects findings within wider literature on
11 success factors for natural resource governance, including Ostrom's 'design principles'. Little
12 attention has been paid, however, to how the wider political and economic context affects co-
13 management specifically and governance of renewable natural resources more generally.
14 Drawing on data from interviews with a range of fisheries stakeholders in Kenya, Tanzania and
15 Uganda, and on secondary sources, the article identifies how the wider political economy is
16 reflected in, and influences, co-management, undermining the potential for success on Lake
17 Victoria. The analysis shows how the political context of competitive authoritarianism in the
18 three countries provides an environment for political interference, constrained resources to
19 decentralized government, insufficient economic growth to offer viable alternative
20 employment to fisheries and endemic corruption. The political economies of the three countries
21 produce a constrained environment in which co-management operates, generating significant
22 challenges to delivering on successful outcomes. The analysis demonstrates the relevance of
23 the political and economic context to natural resource governance and how understanding of
24 the political economy could inform governance design, practice and reform.

25 Keywords: fisheries co-management, political economy, success factors, Lake Victoria,
26 natural resource governance, competitive authoritarianism

27

28 **1. Introduction**

29 Co-management arrangements have been developed and implemented within fisheries
30 throughout the world (Raakjær Nielsen et al., 2004; Wilson et al., 2003), as a form of natural
31 resource governance involving ‘the sharing of power and responsibility between the
32 government and local resource users’ (Berkes, 2009, p. 1692). The approach has largely been
33 adopted with the aim of improving fisheries management and outcomes, for example by
34 increasing compliance with regulations and establishing property rights systems (Raakjær
35 Nielsen et al., 2004). The involvement of resource users in fisheries management is, however,
36 no guarantee that these aims will be achieved. From this recognition, research has been
37 undertaken to identify factors, or conditions, that enhance the chances of success, with success
38 generally being measured in terms of the sustainability of the fisheries, income for fishers and
39 satisfaction and effectiveness of the process of co-management (Whitehouse and Fowler,
40 2018). Such studies have focused on identifying factors closely related to, or internal to, co-
41 management. Factors that have been identified include the nature and performance of
42 leadership (Gutiérrez et al., 2011; Pomeroy et al., 2001), having legal mandate in place,
43 external agents facilitating co-management design, development and implementation, groups
44 having clearly defined membership (Pomeroy et al., 2001) and there being a perception that
45 benefits from co-management exceed costs of participation (Napier et al., 2005).

46

47 There has been little discussion, however, on whether, and how, the wider political and
48 economic context may affect design and implementation, and hence the potential for success,
49 of co-management. This observation is confirmed by d’Armengol et al.’s (2018) systematic

50 review of the context, attributes and outcomes of small-scale fisheries co-management.
51 d'Armengol et al.(2018) explain that they had to exclude from their analytical framework
52 variables associated with 'related ecosystems' and 'social, economic, and political settings'
53 because 'almost none of the articles reviewed included information on their respective
54 variables (e.g., climate trends, economic development or demographic trends, among others)'
55 (d'Armengol et al., 2018, p. 214).

56

57 Within wider literature on natural resource governance, the external context is referred to
58 almost as a 'black box', acknowledged as a variable that influences rules and procedures within
59 a social-ecological system (McGinnis and Ostrom, 2014). Such context may include '*related*
60 *ecological systems* and *broader social-political-economic settings*' (McGinnis and Ostrom,
61 2014: 3; original italics), the political economic structures and historical context (Clement,
62 2010) and the social, political-institutional and physical environment (Agrawal, 2003).

63

64 A common theme of the 'external context' is one of reference to the 'political economy'. Whilst
65 this term is widely used in research and beyond, it is not always defined or unpacked. As a
66 result, there is variation in how a political economy perspective or lens is applied. This article
67 draws on Adam and Dercon's (2009) explanation of a political economy perspective as
68 referring to 'how politics and the institutional structures emerging from different forms of
69 political competition shape policy choices and ultimately economic outcomes' (2009, p. 175).

70 In applying this perspective, the article aims to unpack the political economy to identify what
71 it is about the political economy that is reflected in and constrains the practice and outcomes
72 of fisheries co-management. It does this through an analysis of the political and economic
73 context of co-management on Lake Victoria, East Africa. In so doing, the analysis responds to

74 the overarching research question: how does the political economy of a country influence the
75 practice and outcomes of fisheries co-management?

76

77 Lake Victoria was chosen as a case study for this research as it provides an example of where
78 co-management has been perceived, to an extent, as failing, particularly in terms of not
79 addressing the prevalence of illegalities or improving fish stocks. Analysis to date has focused
80 on co-management itself, particularly at the community level, identifying factors such as
81 kinship ties and corruption as leading to the failure of co-management to prevent or reduce
82 illegalities and improve fish stocks (Etiegni et al., 2017; Nunan et al., 2018). The case was also
83 chosen because Lake Victoria shares many characteristics of other small-scale fisheries in low-
84 income countries, being situated within three countries – Kenya, Tanzania and Uganda – that
85 reflect Béné et al.’s (2010, p. 348) characterisation of having ‘a severe lack of capacity and
86 resources (worsened by the structural adjustment programmes implemented in the 1990s), poor
87 governance and a weak public and private institutional context’. The case demonstrates the
88 relevance of the political economy to understanding the performance and outcomes of fisheries
89 co-management whilst recognising that the specifics of the political economy and fisheries co-
90 management vary between countries. The paper draws on research undertaken in 2015 in the
91 three countries that border the lake, which included the collection of data on perceptions and
92 experience of co-management, and on secondary sources.

93

94 The article begins with a review of how the political and economic context is considered in
95 literature on natural resource governance more broadly and co-management specifically, and
96 what it is about fisheries co-management that may make the political economy context
97 particularly relevant. This is followed by background on Lake Victoria and on the design and

98 introduction of fisheries co-management, and then sections on methods, findings, discussion
99 and conclusion.

100

101 **2. Fisheries co-management and the political economic context**

102 The focus on identifying factors, or conditions, associated with fisheries co-management
103 delivering on successful outcomes reflects the prominence of literature on characteristics of
104 successful commons governance. This is particularly associated with the work of Ostrom, who
105 identified eight ‘design principles’ required for longlasting and effective commons governance
106 (Ostrom, 1990). These principles themselves are largely internally-focused, for example
107 establishing clear resource and social boundaries and sanctions on non-compliance. Factors
108 outside of a governance system have tended to be clustered as ‘context’ but not unpacked in
109 detail. Agrawal (2003, p. 248) notes in reviewing several studies on factors for sustainable
110 governance of common pool resources that they ‘attend only cursorily to the social, political-
111 institutional, and physical environment in which commons are situated’ and goes on to advise
112 that ‘the state of contextual variables may affect the impact of variables being studied
113 explicitly’ (Agrawal, 2003, p. 251).

114

115 Clement (2010) concurs with this view, observing that ‘most commons scholars have little
116 acknowledged how the historical context and politico-economic structures affect rules-in-use
117 and local people’s decisions on NRM [natural resource management]’ (2010, p. 131). Acting
118 on her critique, Clement (2010) ‘politicises’ Ostrom’s Institutional Analysis and Development
119 (IAD) framework to include analysis of power, history and discourse at multiple levels of
120 governance, from the national to the local. In doing so, Clement (2010) includes ‘the politico-
121 economic context’ as an exogenous variable that affects decision-making and outcomes.
122 Clement (2010) does not, however, specify beyond reference to political and economic

123 structures what falls within the remit of the politico-economic context. Ostrom herself
124 elaborates on the social, economic and political settings in her social-ecological systems
125 framework, a development of the IAD framework (Ostrom and Cox, 2010). A set of second
126 tier variables elaborate on the wider context to include: economic development, demographic
127 trends, political stability, other governance systems, markets, media organizations and
128 technology (McGinnis and Ostrom, 2014, p. 5).

129

130 Within fisheries co-management, there is almost no literature that examines how the wider
131 political and economic context may influence design, practice and outcomes (d'Armengol et
132 al., 2018). However, in a review of fisheries co-management approaches in sub-Saharan Africa,
133 Béné et al. (2009) recommend that recognition of the 'political economy of co-management
134 reforms' is needed to explain why co-management is designed in the way it has been (2009, p.
135 1944). By this, they refer to generating understanding of 'the current political 'landscape''
136 (2009, p. 1944) to inform the potential for power sharing and influence. Where politics and
137 politicians have been referred to in literature on success factors for fisheries co-management,
138 it is often in relation to whether there is support for fisheries co-management, for example in
139 the form of enabling legislation and finance (Pomeroy et al., 2001).

140

141 Two linked key characteristics of co-management offer clues as to what would be important to
142 look for from the political economy to explain how co-management functions and performs.
143 These are its characteristic of involving power sharing between government and resource users
144 (Berkes, 2009) and co-management involving not just the devolution of power to resource users
145 but to local government from central government (Pomeroy and Berkes, 1997). What the
146 'sharing of power' means in practice varies, in terms of how involved resource users are in
147 policy-making and where responsibilities for different management functions lie (d'Armengol

148 et al., 2018; Sen and Raakjær Nielsen, 1996). Too often it has been found that power largely
149 remains with government actors rather than resource users. Examples of ‘elite capture’ have
150 also been observed, where actors in a community who already have more power and resources
151 than others are able to capture decision-making structures such as committees and user groups.
152 Béné et al. (2009), for example, found that traditional chiefs were able to capture fisheries co-
153 management in several countries they studied in sub-Saharan Africa and that power remained
154 largely with government, questioning the degree of power-sharing in practice. These inter- and
155 intra-actor power relationships interact and affect the nature and performance of co-
156 management (Quimby and Levine, 2018).

157

158 The degree or nature of power-sharing may also be related to the form that co-management
159 takes. Carlsson and Berkes (2005) identify at least five forms of co-management, reflecting the
160 degree of power-sharing and whether the state or community leads. However, they suggest that
161 in practice co-management tends to appear as a ‘network’ of relationships, reflecting the
162 multiple faces and levels of government involved and the involvement of other actors, such as
163 the private sector, with multiple links between actors generating a web of relationships. They
164 conclude that ‘most instances of collaborative or joint management of natural resources are
165 more complex and sophisticated than might be concluded from the mainstream image of co-
166 management defined as the sharing of power and responsibility between the government and
167 local resource users’ (Carlsson and Berkes, 2005, p. 70). This idea of a complex network of
168 relationships suggests that identifying clear demarcations of power-sharing could be
169 challenging in practice.

170

171 Power-sharing is also manifested in delegation and deconcentration of government functions
172 and revenue-raising to lower levels of government. Fisheries co-management generally

173 involves local government as well as central government, yet decentralisation of government
174 functions has experienced challenges in many parts of the world. Mohmand and Loureiro
175 (2017), for example, observe that decentralisation remains incomplete in many countries in
176 Africa, with a lack of funds transferred from the centre to support effective implementation,
177 inadequate revenue raising powers devolved and many national governments having
178 centralisation tendencies. This affects the capacity of decentralised government to engage with
179 co-management.

180

181 The relevance of the wider political and economic context to the potential for natural resource
182 governance, including co-management, to deliver on sustainability has therefore been
183 recognised, but little detailed guidance provided on what this specifically includes. The
184 defining nature of co-management as power-sharing and the role of decentralisation in
185 delivering on co-management provide insights in terms of power relations and the
186 unwillingness of central government to cede control.

187

188 **3. Background to Lake Victoria fisheries and co-management**

189 Bordered by Kenya, Tanzania and Uganda, Lake Victoria is a transboundary lake covering an
190 area of 68,000km², with three main commercial fisheries: Nile perch, Nile tilapia and the
191 smaller, sardine-like, dagaa. Nile perch and Nile tilapia were introduced to the lake by colonial
192 authorities in the 1950s. By the 1990s, the Nile perch fishery was booming, leading to the
193 development of an export industry, with fish processing plants buying up the majority of large
194 Nile perch. In the early 2000s, concern emerged that stocks and catches of Nile perch were
195 decreasing, with the catch reducing from a peak of 340,000 tons in 1990 to around 250,000
196 tons each year in the 2000s (LVFO, 2015a), attributed to increasing fishing pressure and the
197 prevalence of illegal fishing practices, involving the use of illegal gears and methods, and

198 catching and trading undersized Nile perch (LVFO 2015a, 2016). Nile perch remains the most
199 economically important fishery (Mkumbo and Marshall, 2015), though the Nile tilapia and
200 dagaa fisheries are important for food security and livelihoods (LVFO, 2015a).

201

202 There are estimated to be around 200,000 fishers (boat owners and crew) on the lake (LVFO,
203 2015b), with many more people highly dependent on the lake fisheries for their livelihood,
204 through activities including processing, trading, transport and providing fishing inputs. People
205 strongly identify with their occupation, with occupational groupings reflected in the design of
206 the co-management system brought in from the late 1990s and early 2000s.

207

208 *2.1 Design of the co-management system*

209 The national fisheries departments adopted a co-management approach from the late 1990s,
210 influenced by international adoption of this approach as well as concern about reduced capacity
211 within fisheries departments resulting from structural adjustment and the narrative that
212 involving resource users in management will increase compliance with regulations. The design
213 and implementation of co-management began on a national rather than lake-wide basis, with
214 slightly different approaches taken between the three countries, reflecting the design of the
215 initial project that supported co-management and the different systems of government in place.
216 At the time, both Tanzania and Uganda had decentralized government in place, with multiple
217 levels of local government and fisheries staff at decentralized levels employed by local rather
218 than central government. In Kenya, there was a devolved system in place, with fisheries officers
219 employed by central government working at lower levels but reporting straight to the
220 Department of Fisheries. Following the new Constitution in 2010 and passing of the *County*
221 *Governments Act of 2012*, County Governments were formed. Fisheries officers at devolved

222 levels may be employed by a County Government or by the centre and responsibilities between
223 the two levels of government were still being worked out at the time of the fieldwork.

224

225 The initial design and implementation of co-management was supported with funding from the
226 first phase of the Lake Victoria Environmental Management Project, funded by the World
227 Bank. This involved the development of guidelines in Tanzania and the formation of a few
228 Beach Management Units (BMUs) in each country. In 2004, funding from the European Union
229 through the Implementation of a Fisheries Management Plan (IFMP) project initiated the
230 process of developing a more coordinated, harmonized approach to co-management across the
231 lake, working through the Lake Victoria Fisheries Organisation (LVFO), an organisation of the
232 East African Community.

233

234 Members of the fisheries departments in each country formed a Co-management Working
235 Group which drafted a set of harmonized BMU guidelines (Ogwang et al., 2009). These
236 guidelines determined that a BMU is an ‘organization of fisher folk at the beach (boat
237 crew/baria, boat owners, managers, charterers, fish processors, fish mongers, local gear makers
238 or repairers and fishing equipment dealers) within a fishing community’. Each BMU is
239 composed of an Assembly of all members, which should meet every three months, and an
240 elected Executive Committee. Everyone working in fisheries at a landing site is required to
241 register with the BMU, and members elect a committee of between nine to fifteen members
242 every few years, with the frequency of elections set out in national guidelines. The harmonised
243 and original national BMU guidelines (DFR, 2003; Republic of Kenya, 2006; United Republic
244 of Tanzania, 2005) required a certain composition of the Executive Committees based on
245 occupation and gender. This was a reaction to the previous dominance of various forms of
246 landing site committees and leadership by male boat owners and belief that an arrangement

247 that brought in representation from other occupational groups would be perceived as fairer and
248 as potentially more effective. The Guidelines required 30% of committee members to come
249 from the boat owner category, 30% from boat crew, 30% from the ‘other’ category (including
250 processors, boat and gear makers and repairers and those selling fishing equipment) and 10%
251 of fishmongers/traders. Within the 9-15 members, at least 3 should be women. The national
252 and regional BMU guidelines and regulations set out the functions of BMUs as including
253 participation in enforcement patrols with government fisheries officers and police, keeping a
254 register of people working in fisheries at the beach, receiving newcomers, ensuring that the
255 beach and fish-handling areas are kept clean and developing plans and budgets that feed into
256 local government development plans.

257

258 Implementation of the guidelines was supported through the IFMP project in the form of
259 funding fisheries staff and NGOs to raise awareness about the purpose and composition of
260 BMUs, facilitating elections of BMU committees and providing training of committee
261 members in what a BMU should do, financial management and in fisheries management. Since
262 the IFMP finished in 2010, following a two-year extension largely focused on infrastructure
263 development, support to fisheries staff and BMUs in maintaining awareness, training new
264 committee members and monitoring performance has been limited. As discussed in more detail
265 later in the article, the national BMU Guidelines in Uganda were subsequently revised in 2016,
266 reverting back to a dominance of leadership by boat owners.

267

268 **4. Methods**

269 The article draws on qualitative research undertaken in 2015 and on secondary sources. The
270 qualitative research involved semi-structured interviews at six fish landing sites in each country
271 bordering the lake, Kenya, Tanzania and Uganda. The landing sites were chosen from different

272 regions of the lake to capture different experiences related to administration, local politics and
 273 location in relation to towns and borders. In Tanzania, three regions border the lake and so two
 274 landing sites were selected in one district of each region, Kagera, Mara and Mwanza. In
 275 Uganda, two sites were selected within one district each of the west (towards the border with
 276 Tanzania), central and east areas (towards the border with Kenya). In Kenya, a similar selection
 277 was undertaken to sample from different geographical and administrative locations. The
 278 landing sites and districts are not named as sensitive data was collected, particularly in relation
 279 to illegalities and corruption, and confidentiality of data was committed to during the process
 280 of gaining informed consent for the interviews. Table 1 sets out key characteristics of the
 281 landing sites and the number of people interviewed from the different occupational groups and
 282 positions of authority. As well as varying in terms of geographical location, the landing sites
 283 offered variation in the main fisheries targeted and the number of boats located there.

284

285 **Table 1 Key features of landing sites and number of interviewees**

	Kenya	Tanzania	Uganda	Total
Number of landing sites	6	6	6	18
Target fishery				
Mixed	6	3		9
Nile perch only		2		2
Nile perch and Tilapia			4	4
Nile perch and dagaa		1	1	2
Dagaa			1	1
Number of boats at each landing site	72 37 46 130 104 66	21 47 409 135 31 42	48 49 97 314 29 64	N/A
Number of BMU Leaders interviewed	6	6	6	18
Number of boat owners interviewed	12	10	12	34
Number of boat crew interviewed	12	12	12	36
Number of fish processors/traders interviewed	9	12	12	33
Number of government staff interviewed	4	2	6	12

286

287 Sampling was undertaken on an occupational basis at the landing sites following the key
288 occupations identified in BMU guidelines, however it did mean that few of the participants
289 were female. 22% of the interviewees were women, which is close to the estimation of female
290 BMU membership in the mid-2000s of 25% (LVFO, undated). Women tend to be more
291 involved in the fish processing and trading activities, rather than going out to fish in a boat,
292 reflecting gender norms within many fishing communities (Weeratunge et al., 2010). Sampling
293 was undertaken using purposive and convenience sampling, reflecting the intention to
294 interview people of certain occupations and positions and the need to sample people present at
295 the landing site at the time, given that long distances were travelled in many cases to get to the
296 landing sites and so sampling could not take place on a random basis using the register of
297 fishers, which may not be up-to-date in all cases anyway.

298

299 The data used in this article came from a research project which was primarily concerned with
300 investigating personal networks and experiences and perspectives on co-management. The data
301 on personal networks is not reported on in this article. The semi-structured interviews with
302 fisherfolk had five sections: knowledge of BMU structures, activities and performance;
303 compliance and legitimacy; social groupings; occupation, wellbeing and trust; and, future
304 plans, informed by knowledge of, and attitudes to, the condition of the fisheries. This paper
305 draws on data from several sections, particularly on knowledge of BMU structures, activities
306 and performance, and on compliance and legitimacy.

307

308 At the end of the data collection and analysis, a workshop was convened at the LVFO
309 headquarters, at which tentative findings were discussed with national fisheries departments,
310 local government fisheries officers and fisherfolk representatives. This gave the research team

311 the opportunity to share findings, test conclusions and discuss the implications of the findings
312 for fisheries management.

313

314 As well as drawing on this research, the article draws on secondary sources such as fisheries
315 policy and legislation and newspaper articles in relation to fisheries co-management. For the
316 analysis of the political economy context, peer-reviewed journal articles, reports from
317 international organisations, such as the African Development Bank Group and the United
318 Nations Economic Commission for Africa, are drawn on and secondary data on corruption and
319 perceptions of democracy used. Data on perceptions and experience of corruption in the public
320 sector was taken from Transparency International-Kenya (2014). Data on perceptions of
321 corruption of public servants and perceptions of aspects of democracy were taken from
322 Afrobarometer, with the latest data collected in Kenya in 2016 and in Tanzania and Uganda in
323 2017.

324

325 **5. Findings**

326 This section presents the findings by analyzing key characteristics of the political and economic
327 context within the three countries and identifying how those characteristics are reflected in the
328 design and practice of fisheries co-management on Lake Victoria. The analysis is presented in
329 four parts: political regimes, nature and performance of decentralised government, the national
330 and local economies, and corruption. These themes were identified in part by the literature
331 review and reflection on the defining characteristics of co-management, and emerged from the
332 fieldwork data as factors external to fisheries co-management effecting practice and outcomes.

333

334 *5.1 Political regimes*

335 *5.1.1 The national level*

336 The political systems of Kenya, Tanzania and Uganda are ostensibly multi-party democracies
337 yet are broadly characterised by there being limited space for opposition politicians and parties,
338 entrenched patronage systems and a prevalence of corruption. The political regimes have been
339 described as being ‘competitive authoritarianism’ (Kagoro, 2016; Levitsky and Way, 2010),
340 referring to situations where ‘parties use democratic institutions to contest seriously for power,
341 but they are not democratic because the playing field is heavily skewed in favor of incumbents’
342 (Levitsky and Way, 2010, p. 5). Maintaining power involves clientelism, where systems of
343 patronage secure votes and support, as well as the adoption of multiple strategies to rig the
344 outcomes of elections (Cheeseman and Klaas, 2018), all of which affect the design and
345 implementation of government policy.

346

347 The results from national surveys by Afrobarometer (2019) support the picture set out above,
348 with only half of the respondents across Kenya, Tanzania and Uganda believing that there is ‘a
349 democracy, but with minor problems’, being fairly satisfied with how democracy is working
350 in their country and believing that the president never ignores parliament. Only 40% reported
351 that they felt that elections were free and fair. The responses from the survey in Uganda
352 consistently presented a more sceptical view of how democracy is performing in the country
353 compared to Kenya and Tanzania. For example, 44% of the respondents reported that they are
354 not very or are not at all satisfied with the way democracy is working, compared to 18% in
355 Tanzania and 21% reported that they believe the president often ignores parliament compared
356 to 7% in Tanzania and almost 9% in Kenya. Data from elsewhere, such as given in the
357 Economist Democracy Index, which is not based on perception surveys, suggests that all three
358 countries can be described as having a ‘hybrid regime’ (The Economist, 2019), referring to
359 having both authoritarian and democratic elements, supporting Levitsky and Way’s (2010)
360 description of such regimes as competitive authoritarianism.

361

362 The political economy of Kenya has been described as there being an ‘inextricable link between
363 political and economic interests’, with politicians heavily involved in business affairs and
364 regimes using business connections to support certain ethnic communities and shore up their
365 power (Booth et al., 2014: 14). Political parties are fluid, with new parties forming for each
366 election along ethnic lines. In Tanzania, the ruling party, Chama cha Mapinduzi (CCM) has
367 dominated national Tanzanian politics since independence in 1962, though with several
368 changes in leadership and hence President. The most recent incumbent, John Magufuli, was
369 elected in 2015 on a strongly anticorruption platform. Since his election, however, CCM has
370 adopted a number of repressive measures to reduce political space for the opposition, with
371 newspaper suspensions, legislation such as requiring a licence for uploading content online and
372 prohibiting political rallies; CCM has therefore been described as having taken a ‘sharp
373 authoritarian turn’ (Paget, 2017, p. 154). Kagoro (2016) argues that competitive
374 authoritarianism is exemplified in Uganda by the strategies employed by President Museveni
375 since 1986 of limiting electoral space for opposition parties and crushing opposition through
376 military violence. President Museveni’s dominance over the military and the ruling National
377 Resistance Movement has stifled opposition, assisted by the military’s involvement in election
378 rigging, such as ‘harassment of the opposition, manning of polling stations, staffing ballot
379 boxes, and directing people on how to vote “wisely”’ (Kagoro, 2016, p. 166).

380

381 Patronage systems enable public sector and political appointments to be made based on
382 political, social and economic relations rather than being based on merit and democratic
383 systems. These are often associated with the need to maintain political support but also to grant
384 favours in exchange for payments from economic actors. Of course, there are complexities
385 within each political system over time and space, but these broad characterisations provide the

386 context for analysing how politics has interacted with fisheries co-management on Lake
387 Victoria.

388

389 *5.1.2 Politics and fisheries co-management*

390 Patronage is the characteristic of political practices described above that was most apparent
391 from the fieldwork. Patronage is demonstrated through interference of politicians in fisheries
392 management, largely in the form of politicians stopping, or preventing, enforcement by
393 government fisheries staff of fisheries regulations. This happens particularly around election
394 times, when politicians are concerned about the voting intentions of their constituents and seek
395 favours from their electorate in return for their vote. Politicians at the village, district/county
396 and national levels were reported to engage in this behaviour. Fisheries staff reported that they
397 are told that they must stop any enforcement action to prevent complaints to local politicians.
398 Local politicians were also reported to intervene in cases where fisherfolk had been arrested,
399 securing their release without any investigation.

400

401 Political interference is also manifested through competition between local government and
402 BMUs in some locations over collecting fees from fisherfolk and through conflicting messages
403 regarding which bodies have responsibility for enforcement. BMUs were granted the right to
404 raise revenue to support their work, which some have done, through a membership fee or
405 through a fee to land or sell fish. Fisherfolk are reluctant to pay multiple fees and so this
406 situation has led in some places to conflict over which structure is raising money through such
407 fees and for what purpose. Village level government has also become involved with
408 enforcement at times, with cases reported of village councils stopping BMUs from enforcing
409 regulations.

410

411 An extreme case of political interference is provided by the consistent undermining of BMUs
412 in Uganda from their formation on Lake Victoria through political decision-making and, in
413 2015, by the dissolution of BMUs by President Museveni in the middle of an election
414 campaign. Intervention in the fisheries sector in Uganda initially came about in the belief that
415 BMUs were not a sufficient mechanism to address illegalities. The State Minister of Fisheries
416 between 2006 and 2011, Fred Mukisa, formed an armed unit separate to the fisheries
417 department to enforce regulations. This was undertaken without the support of the Department
418 of Fisheries Resources (DFR) and the police, leading to clashes between the Minister and civil
419 servants (Daily Monitor, 2010).

420

421 In the field research, this separate unit known as the Special Enforcement Unit was consistently
422 reported as being under-resourced and not trained in fisheries management. This situation
423 reportedly led to the Unit demanding bribes so that fuel used to travel over land and water could
424 be paid for and money shared between officers. Bribes were demanded from fisherfolk whether
425 fishing legally or illegally. One boat crew explained that ‘Special Enforcement Officers were
426 not given engines, food and boats so they have to gamble and get all the above. So if he borrows
427 fuel and goes to make patrols at the lake and does not come across any fisherman, anyone
428 whom he comes across whether he is involved in illegalities or not has to be made to pay a
429 bribe in order for him to be able to pay the fuel that he has used’. Other interviewees observed
430 how the actions of these officers had undermined the activities of BMUs, with one boat owner
431 explaining that ‘the BMU has failed to fight illegal fishing and this is attributed to the
432 interference of the enforcement officers who claim to be in control/charge of fighting practices
433 of illegal fishing’ and a boat crew observed that ‘the ones who made BMUs to lose track are
434 the special enforcement officers sent by the Minister for Fisheries...When they go on the lake
435 to make patrols, they just confiscate illegal gears and sell them without BMUs knowledge.

436 They don't report to BMUs at all and they disrespect BMU leaders'. Whitfield et al. (2015)
437 report that the Special Enforcement Unit had been formed as a way of providing income for
438 some of the army, with debates in Parliament on their role in fisheries enforcement. This made
439 it difficult for fisherfolk and the Department of Fisheries Resources to challenge the activities
440 of the unit.

441

442 By 2015 the fisheries situation in Uganda had not improved, with illegalities and corruption
443 believed to be rife. During the election campaign in 2015-16, President Museveni abruptly
444 suspended the activities of fisheries officers and BMUs (New Vision, 2015). A press release
445 from the Ministry of Agriculture, Animal Industries and Fisheries (MAAIF) issued in
446 December 2015 formally put the ban in place. Museveni's letters reported on in the New Vision
447 newspaper and the MAAIF press release refer to corruption and connivance being rife, with
448 the newspaper article referring to the President also calling for the suspension of police
449 involved in fisheries enforcement. The press release established a three-month suspension of
450 BMU and fisheries officer involvement in enforcement, replacing BMUs with 'fish landing site
451 committees', to be established by the district local governments and authorized by the Chief
452 Fisheries Officer (MAAIF, 2015). The suspension was extended through a press release issued
453 in May 2016 until the end of July 2016 which also reported on a proposal to form a
454 collaborative Fisheries Enforcement Task Force and revise BMU regulations (MAAIF, 2016).

455

456 The Special Enforcement Unit was disbanded along with other enforcement authorities in 2015,
457 but subsequently a similar unit was created in 2016 by the then State Minister for Fisheries,
458 allegedly without the support of the President (Daily Monitor, 2016). This initiative led to the
459 training of army officers at the Fisheries Training Institute to form the Fisheries Protection
460 Force (Daily Monitor, 2017). The army continues to be involved in fisheries enforcement, with

461 much controversy about their actions. Reports of violence and destruction of nets and boats
462 (see, for example, Mudliar, 2018) led to the Speaker of Parliament to call on the Prime Minister
463 to report on what action was being taken to address the actions of the army within fisheries
464 (Parliament, 2018). The involvement of the army in cracking down on illegal fishing activities
465 formed part of a regional approach to enforcement, supported by a regional fisheries
466 programme SMARTFISH, funded by the European Union. Burning of illegal fishing gears
467 took place in both Uganda and Tanzania as part of this programme (Stop Illegal Fishing, 2016).
468

469 Following the 2015 political intervention, the national BMU guidelines in Uganda were
470 revised. Rather than an equal number of boat crew, boat owners and members from the ‘other’
471 category, the new guidelines provide for greater representation of the boat owner category,
472 with 5 of 9 Executive Committee members to come from the boat owner category, 2 from the
473 boat crew, 1 fishmonger and 1 from the ‘other’ category. Although these new guidelines have
474 been approved in Uganda, they had not been implemented by the time of writing, with Fish
475 Landing Site Committees still in place following the dissolution of BMUs in 2015.

476
477 Whilst Museveni’s motivation for suspending the BMUs and the work of fisheries officers and
478 the police in enforcement may not be fully known, it is possible that the voting outcomes of
479 the 2011 election influenced Museveni’s action. It is reported that 52 percent of voters in
480 fishing constituencies around Lake Victoria voted for Museveni in 2011, compared to 69
481 percent on average throughout the country and over 90 percent in the President’s home area of
482 the southwest (Kjær et al., 2012). These figures may have caused concern for Museveni about
483 the voting intentions of fisherfolk around the lake and led him to take action to punish apparent
484 opposition supporters. Kantel (2019) supports this view from fieldwork in Uganda, arguing
485 that the abolition of the BMUs and the introduction of the army to enforce regulations in

486 2017/18 ‘can be interpreted as efforts by the government to secure an increasingly authoritarian
487 hold on state power’ (2019, p. 452). Kantel (2019) further argues that this is achieved through
488 portraying parts of the fishing population as criminal and illegitimate and as a threat to peace
489 and security.

490

491 This long example from Uganda is significant for at least two reasons. Firstly, it demonstrates
492 the lengths that Museveni would go to in practising ‘competitive authoritarianism’. Secondly,
493 the measures Museveni took have had a long-lasting effect on fisheries co-management and
494 will do into the future.

495

496 5.2 *Decentralized government*

497 5.2.1 *National systems and practice of decentralized government*

498 In all three countries, a decentralized system of government is in place, most recently
499 introduced in Kenya following the 2010 Constitution. District (Uganda and Tanzania) or
500 County (Kenya) governments, and government structures below this level, have elected
501 members and administrative officers, including officers with portfolios that relate to specific
502 ministries, such as fisheries officers and assistants. The power and effectiveness of
503 decentralized government has, however, been found to be limited, with local government
504 dependent on central government for resources and policy direction. In Uganda and Tanzania,
505 it has been shown that central government retains much control over local government through
506 limiting revenue generation (Awortwi, 2011; Kakumba, 2010; Venugopal and Yilmaz, 2010)
507 and making appointments to senior positions (Hulst et al., 2015; Venugopal and Yilmaz, 2010).
508 Due to reliance on central government for funding, local governments are more concerned
509 about upwards rather than downwards accountability. Hulst et al. (2015, p. 369) reports that in
510 Tanzania, ‘central government control over local politics and administration is tight’.

511

512 As well as local government being dependent on central government for funding, power is
513 manifested in the creation of new districts. In Uganda, Awortwi and Helmsing (2014) report
514 that at least eight new districts were formed per year between 2005 and 2010 and that their
515 analysis on the motivation for forming new districts demonstrated that President Museveni
516 drove the process to maximise the potential for support to keep himself in power.

517

518 Although County government is quite recent in Kenya, several concerns have already been
519 raised about the system and its performance. The County government system presents a parallel
520 system to national government, with sectoral officers, including fisheries, appointed in some
521 areas by both County and national government (Cheeseman et al., 2016). In addition, d’Arcy
522 and Cornell (2016) found that decentralisation in Kenya has not reduced corruption, rather a
523 situation has evolved where it is seen as “everyone’s turn to eat” (2016, p. 271).

524

525 *5.2.2 Capacity and role of fisheries staff in decentralized government*

526 The lack of power and effectiveness within decentralized government is reflected in the
527 fisheries sector, including in the adoption of co-management itself. One of the motivations for
528 introducing co-management in the region was to address the lack of capacity in government to
529 manage the fisheries, in terms of staff and resources to reach all parts of the lake and enforce
530 regulations (Ogwang et al., 2009). One fisheries officer observed that ‘our staff is lean, so we
531 do collection of data through the BMU, they also help us in doing MCS, security at the beaches,
532 conflict resolution at the beaches and cross border issues. They are very useful in that’. A BMU
533 leader supported this view, explaining that ‘the fisheries staff alone could not manage the
534 lake...the fisheries officer at the landing was one but the BMU Committee has many...we are

535 the resource users, whereby we could be even more interested than somebody who...is not
536 even a resident or a settled man in this place’.

537

538 Despite this, not all fisheries officers were supportive of this ‘additional capacity’, believing
539 that the formation BMUs was a threat to their jobs: ‘it is like some officers who were in the
540 system before looked at co-management as something that is taking power ... some bit of power
541 from them, and which they never liked. So they worked against that. They worked tirelessly to
542 ensure co-management fails’. Some BMU leaders shared a similar view, with the formation of
543 BMUs explained as ‘the powers that the Department of Fisheries had was given to the BMU’
544 and another that ‘by introduction of the BMUs at that time, the work of the fisheries staff at the
545 landing site was terminated. It was taken on by the BMU committees’.

546

547 Differences in views about the purpose of co-management and the role of government officers
548 in co-management may reflect the absence of a definition of co-management in policy and
549 legislation. Table 2 sets out how the remit for co-management is catered for in national policy
550 and legislation. The *Kenyan Fisheries Management and Development Act of 2016*, for example,
551 makes only one reference to co-management and this is in relation to the remit of BMUs. In
552 the Tanzanian National Fisheries Policy of 2015 there is no explicit mention of BMUs, other
553 than a definition, and the word ‘co-management’ is used once. In addition, the policy sets out
554 a list of local government functions but these do not set out clear roles in terms of co-
555 management other than promoting formation of fisherfolk associations. Instead, the policy
556 refers to ‘decentralisation and devolution’, referring to the broader approach to decentralizing
557 government functions in Tanzania (Hulst et al., 2015), and to the creation of community-based
558 fisheries management. In the Ugandan policy, co-management is referred to but no definition
559 is provided. A draft fisheries bill has been under consideration for more than a decade and so

560 the 1970 Bill still stands, with no mention of co-management. This lack of reference to BMUs
561 and explicitly to co-management calls into question the governments' commitment to the
562 approach and contributes to diverse views about the purpose and nature of co-management
563 within local government and fishing communities.

564

565 <TABLE 2 HERE>

566

567 *5.3 The national and local economies*

568 *5.3.1 National economies*

569 Most East African economies recorded impressive growth rates since 2003, with notable
570 exceptions of the fragile states of South Sudan and Somalia. In 2017, the growth in average
571 GDP was 5.9% in the region. Despite an impressive rate of growth, poverty remains endemic
572 and the agricultural sector has kept its position as the largest contributor to GDP (ADBG,
573 2018). This reliance on the agricultural sector is under pressure due to climate change, with
574 drought in 2016 leading to a sharp decline in output (UNECA, 2018). Although economic
575 growth rates have been impressive, they have not been at a level that has made a difference to
576 employment and poverty reduction and insufficient employment generation means that many
577 people continue to rely on agriculture for their livelihoods. Levels of government revenue have
578 remained low, limiting investment in the economy at the local and national level (UNECA,
579 2018).

580

581 *5.3.2 Fisheries employment and funding of the sector*

582 Given the employment situation described above, fisheries remains an attractive sector for
583 income-generation, despite concerns about reduced catches. Money can be earned far more
584 quickly in fisheries than in agriculture and, if working as a boat crew, no capital is needed. This

585 places pressure on the fisheries and on the potential for co-management systems to manage
586 fishing effort. Increasing fishing effort is one of several factors that encourages illegal fishing,
587 as illegal methods and gears become essential as smaller fish remain. This situation makes it
588 challenging for BMUs to enforce regulations and for co-management to deliver on reduced
589 illegalities. The lack of alternative income-generating opportunities and high levels of poverty
590 therefore impact on the potential for co-management to succeed.

591

592 Funding for the work of fisheries staff comes from central and local government, with
593 government departments and officers competing with other sectors, including health and
594 education, for limited funds. The sector therefore often relies on donor-funded projects to
595 support infrastructure and activities beyond basic staffing and running costs. There have been
596 efforts over the last twenty years to develop a Fish Levy Trust Fund in the three countries
597 bordering the lake, which would generate funds through taxation and donations, providing a
598 sustainable source of funding to support management and development of the sector. Progress
599 has been slow in getting the Trust Fund up and running, though there are signs that efforts may
600 be renewed with Kenya including the formation of a Fish Levy Trust Fund in the 2016 *Fisheries*
601 *Management and Development Act No. 35* and the LVFO Strategic Plan 2016-2020 including
602 an action to ‘fast track’ the Fish Levy Trust Fund (LVFO, 2016). The Fund would take money
603 away from revenue going directly to government and this is perhaps a reason for the slow
604 progress in establishing the Trust Fund.

605

606 At the local government level, fisheries staff repeatedly stated that they receive insufficient
607 funding to cover the costs incurred in travelling to landing sites and being away from their
608 station for several nights, which is essential, particularly for district/county officers given the
609 distance of some landing sites from district/county headquarters. Fisheries staff at the district

610 or county level seek funding for their activities at that level rather than receiving funds directly
611 from the fisheries ministry. They are competing for very limited funds, with much of the
612 funding coming from national government to the district or county for specific activities, with
613 little raised locally. Instead of the sector receiving adequate funding, the sector is seen as a
614 source of revenue for local government, with a landing fee and fee associated with the sale of
615 fish serving as important sources of revenue for local government. The collection of these fees
616 are put out to tender, with the successful tenderer, which is sometimes a BMU, collecting much
617 more than the minimum fee payable to the local government. This means that whilst revenue
618 may sometimes stay within the sector, if a BMU wins the tender, very often much of the
619 revenue does not stay within the sector, losing an opportunity for investment (Nunan, 2014).
620 Boat license fees go to central government in Uganda, to the County government in Kenya and
621 to district local government in Tanzania, representing an incentive to provide as many licenses
622 as possible to generate revenue. A further source of revenue comes in the form of the Fish
623 Movement Permit, which was brought in to enable fish to be traced as a result of concerns by
624 the European Union about traceability and quality. In Uganda, 25% of the FMP revenue is
625 supposed to be returned to the BMU but this does not always happen in practice. There is also
626 an export levy charged on exported fish and fish products, though not all of this goes back into
627 the sector.

628

629 There are then sources of funding to support co-management through BMUs raising funds and
630 funding to government staff to travel to landing sites and work with BMUs. However, this is
631 very limited and inadequate funding has led to delays in BMU Committee elections and
632 insufficient support to BMUs, particularly where new committees have been elected yet there
633 is no training in legislation and functions.

634

635 5.4 Corruption

636 5.4.1 Corruption within the three countries

637 Corruption has been described as being endemic, or embedded within the three countries
 638 (Asiimwe, 2013; Hope, 2014; Muhumuza, 2016), with the Corruption Perceptions Index of
 639 Transparency International ranking Tanzania, Kenya and Uganda 117, 139 and 139
 640 respectively out of 168 countries (Transparency International, 2016). A bribery survey in East
 641 Africa reported that the majority of respondents described the level of corruption as high and
 642 that it had increased in the previous year (Transparency International-Kenya, 2014). As shown
 643 in Table 3, data from Afrobarometer (2019) on perceptions of the involvement of government
 644 officers and elected members in corruption found that at least some of the officers/elected
 645 members were perceived to be engaged in corruption, though the numbers are higher in Uganda
 646 and Kenya than in Tanzania. Police officers received the highest response in the ‘most’
 647 category for the countries overall.

648

649 **Table 3 Perceptions of involvement in corruption**

	Kenya	Tanzania	Uganda	All
Government officials				
Some	42.2	52.8	42.2	47.1
Most	38.7	9.8	32.8	24.0
All	8.2	2.0	17	7.3
Total	89.1	64.6	92.0	78.4
Local government councillors				
Some	42.3	49.9	50.4	47.7
Most	32.7	7.6	26.6	19.7
All	12.1	2.0	11.4	7.3
Total	87.1	59.5	88.4	74.7
Members of Parliament				
Some	40.2	44.3	46.3	43.5
Most	35.9	6.5	26.4	20.1
All	10.9	1.3	13.4	7.0
Total	87.0	52.1	86.1	70.6
Police				
Some	25.1	40.5	23.6	31.9
Most	37.3	31.0	34.6	33.7
All	28.5	5.5	35.8	19.6

Total	90.9	77.0	94.0	85.2
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650 Source: Afrobarometer (2019)

651

652 Asimwe (2013, p. 130) attributes corruption in Uganda to “neo”-patron-clientelism and a
 653 skewed power structure that enables institutional and social manipulation’, with neo-
 654 patrimonialism in enabling the prevalence and sustenance of corruption. Corruption is viewed
 655 as undermining the delivery of public services, the nature of democracy and societal values, as
 656 well as removes resources away from development activities (Hope, 2014).

657

658 5.4.2 *Corruption within fisheries*

659 In the research, interviewees were not asked any questions about corruption in the sector. There
 660 was, however, a section of questions about their experience of illegalities, why they think
 661 people conduct illegal fishing and how prevalent they believe illegalities to be. Around 50% of
 662 boat owners and boat crew across all three countries referred to corruption when responding to
 663 questions on illegalities, and 30% of fish traders/processors. In these responses, actors from all
 664 stakeholder groups involved in fisheries and in enforcing legislation and regulations were
 665 alleged to be involved in corrupt practices – BMU leaders, village council members, fisheries
 666 staff, police officers and the judiciary. This finding reflects the perceptions of involvement in
 667 corruption by government officers and elected members reported on in Table 3.

668

669 Corruption was reported to take place largely through either regular payments made to allow
 670 illegal gears to be used or payments offered or demanded when someone was caught using an
 671 illegal gear or method, or selling undersized fish. It was claimed that such practices undermine
 672 the willingness of BMUs to become involved in enforcement and that corruption perpetuates
 673 illegalities. Despite the close connection between corruption and illegalities, there is no

674 mention of corruption in strategies and plans to tackle illegal fishing practices (Nunan et al.,
675 2018).

676

677 **6 Discussion**

678 The political economy of fisheries co-management has been explored through four interlinked
679 areas: characteristics of the political regime, decentralisation of government functions and
680 power, the level and growth of the economy and prevalence of corruption. In each area of
681 analysis, the situation found within the wider political economy is reflected in the practice and
682 outcomes of fisheries co-management.

683

684 In relation to the political context, the regime in all three countries has been described as
685 ‘competitive authoritarianism’, where the apparatus of democracy is in place, in the form of
686 opposition parties and regular elections, but the incumbent president or party abuses state
687 power to ensure that the opposition is at a distinct disadvantage, thus keeping hold of power
688 over decades. Levitsky and Way (2010) identify several characteristics of competitive
689 authoritarianism that may influence and inform practice beyond national elections and beyond
690 the ruling party. These include the centrality of informal institutions in keeping hold of power
691 over time, which, in relation to elections includes ‘vote buying, ballot-box stuffing, and
692 manipulation of the vote count’ (Levitsky and Way, 2010, p. 27). Levitsky and Way (2010)
693 also note characteristics of organized corruption, informal mechanisms of repression and
694 ‘privatized’ violence of competitive authoritarian regimes. These mechanisms are used rather
695 than more transparent mechanisms to keep the façade of democracy whilst suppressing
696 opposition and unrest.

697

698 The influence of competitive authoritarianism on fisheries co-management is seen in at least
699 the following ways: interference of politicians in the elections of BMU committee members;
700 interference by politicians in enforcement by fisheries officers; control of policy and funding
701 by central government despite decentralization; a militarized approach to enforcement, with
702 burning of illegal gears in Tanzania and Uganda; deployment of a Special Enforcement Unit
703 in Uganda outside of the fisheries department, formed of military personnel, without fisheries
704 training and adequate resources; and, corruption being endemic within the fisheries sector, and
705 closely linked to illegal fishing activities, reflecting the endemic nature of corruption within
706 the public sector in the three countries and the ‘organized corruption’ associated with
707 competitive authoritarianism. President Museveni’s interference in fisheries governance by
708 banning BMUs and stopping the work of fisheries officers during an election campaign is
709 particularly notable as a potential strategy to prevent opposition supporters from mobilising
710 through BMUs.

711

712 These illustrations of the reflection of the political regime within the fisheries sector impact on
713 the practice and outcomes of fisheries co-management. Political interference, ongoing
714 corruption and a militarized approach to enforcement go against the spirit of co-management
715 of power-sharing and collaboration, thus undermining the legitimacy of co-management and
716 potential for it to succeed. Constrained decentralization of government functions and resources,
717 and limited alternative opportunities for employment and income-generation outside of
718 fisheries, can also be linked to the political context and to impacts on the potential for co-
719 management to succeed in delivering on more sustainable fisheries.

720

721 The context provided by the political economy clearly affects at least some of the enabling
722 factors and conditions identified as being necessary for co-management success. For example,

723 Pomeroy et al. (2001) identify political support and adequate financial resources as being
724 conditions important for effective co-management. Political support should be constructive,
725 with Pomeroy et al. (2001) suggesting that if politicians in any way oppose co-management,
726 the system will not work. There is certainly evidence of unhelpful political action and decision-
727 making on Lake Victoria, creating conditions that are not conducive for effective co-
728 management. In terms of financial resources, funding through local government was found to
729 be inadequate and challenges were experienced in generating sufficient funds through fisheries.

730

731 The analysis has also unpacked the wider context referred to in frameworks such as the social-
732 ecological systems framework (McGinnis and Ostrom, 2014) and identified as absent in several
733 analyses of governance of common pool resources by Agrawal (2003) and Clement (2010).
734 Different characteristics of the political economy may be more relevant in different countries
735 and over time, but the analysis demonstrates the value of unpacking the political economy
736 context to explain the practice and outcomes of co-management, and of natural resource
737 governance more generally.

738

739 **7. Conclusion**

740 The evidence strongly shows how influential the wider political economy is on the practice of
741 co-management, confirming that the practice and performance of fisheries co-management
742 cannot be examined by focusing on co-management alone. The wider political and economic
743 context matters: characteristics of the wider political system are reflected in fisheries and affect
744 the practice and outcomes of co-management through political interference and patronage; the
745 insufficient devolution of power and resources through decentralisation to local government
746 also affects, and is reflected in, co-management; the reliance on agriculture in the national
747 economies and high levels of income-poverty continue to make fisheries an attractive sector

748 and makes it difficult to exclude people from the sector through limiting fishing capacity; and,
749 corruption within fisheries reflects the nature and prevalence of corruption within the public
750 sector more broadly. The context of competitive authoritarian regimes in the three countries
751 constitutes the ‘politics and institutional structures’ that ‘shape policy choices and ultimately
752 economic outcomes’ (Adam and Dercon, 2009, p. 175), thereby supporting the contention that
753 taking a political economy lens to the analysis of the wider context of co-management enables
754 identification of political decisions and actions that influence the practice and outcomes of co-
755 management.

756

757 Understanding of the political economy of co-management enables identification of not just
758 why co-management may not be working as desired but also how and why it will be constrained
759 and why alternative strategies for its development and effective performance may be needed.
760 The analysis suggests that motivations for the way actors behave affect co-management and
761 that these can be identified through analysis of the political economy. Understanding
762 motivations for behaviour could inform the design or reform of a co-management system so
763 that sources of motivation are addressed where possible and appropriate. The analysis also
764 shows that there is a limit to what can be achieved in supporting or reforming any co-
765 management system. Some of the sources of influence for the way actors behave and for the
766 factors that affect the practice of co-management are beyond the co-management system itself.

767

768 The findings and conclusions are significant owing to the scale of adoption of fisheries co-
769 management in low-income countries and beyond. Evans et al. (2011, p. 1939) reported that
770 their review of fisheries co-management had found 221 examples ‘in over 50 countries in the
771 developing world’, confirming claims that co-management has been adopted across the world.
772 However, the argument that analysis of the political economy is essential for contributing to

773 explanations of the performance and outcomes of fisheries co-management can also be made
774 for natural resource governance more broadly. This includes community forest management,
775 community-based conservation and protected area management, where politics and power in
776 particular have already been shown to impact on policies and governance (Bluwstein and Lund,
777 2018; Calfucura, 2018; Kashwan, 2013).

778

779 The findings and analysis reported on contribute to an opening up of the ‘black box’ of the
780 political-economic context of common pool resource or social-ecological systems governance.
781 Analysis and understanding of the political regimes in place, and how these affect the economy
782 and decentralized government, is particularly encouraged by the findings of this case. Further
783 research into the wider political and economic context of natural resource governance,
784 particularly in terms of explaining the potential for success, is essential for moderating
785 expectations as well as informing support, interventions and reform.

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Table 2 National policy and legislation related to co-management

Country	Policy	Legislation	Regulations
<p>Kenya</p>	<p>National Fisheries and Ocean Policy 2008</p> <ul style="list-style-type: none"> • 2.2.3 It has been difficult to enforce management measures because the fisher communities have been slow in taking up their roles as co-managers of the resources. • One of eight guiding principles: Good governance (co-management and transparency) • The Government will promote the role of Beach management units (BMUs) in the management of fisheries resources. • In response to challenge 2.2.3 – strategy includes: Promoting Capacity building of BMUs through training in relevant areas to encourage management of fisheries resources. 	<p>Fisheries Management and Development Act 35 2016 Definition of a BMU.</p> <p>Section 37: Establishment of beach management units</p> <ul style="list-style-type: none"> - Refers to making regulations that set standards for the management of BMUs, including mandate in co-management of BMUs. 	<p>Fisheries (Beach Management Unit) regulations 2007 (Revised 2012) Details formation process and functions of BMUs. Includes one mention of co-management:</p> <p>7. Co-management areas (1) The authorised fisheries officer shall, following a consultative process, designate at respect of each beach management unit a co-management area which shall be an area in which the beach management unit shall undertake fisheries management activities jointly with the Director.</p>
<p>Tanzania</p>	<p>National Fisheries Policy 2015</p> <ul style="list-style-type: none"> • Beach management unit: Means a group of stakeholders in a fishing community whose main function is management, conservation and protection of fish in their locality in collaboration with the government. • The Government shall promote collaborative and ecosystem approach to fisheries management • Decentralization by Devolution is considered the most appropriate form of fisheries governance to enable local governments to fundamentally control local fishing by a Community Based Fisheries Management (CBFM) system. Currently, most of the fisheries and aquaculture activities have been decentralized to Local Government Authorities. <p>(i) The Government shall promote and support awareness creation on D by D in fisheries resource management; and</p>	<p>Fisheries Act 2003 “beach management unit” means a group of devoted stakeholders in a fishing community whose main function is management conservation and protection of fish in their locality in collaboration with the government; 18.-(1) The Director may enter into a management agreement with beach management units of the whole or part of or some specific fishery matter or activity within any water body or with any one or more local authorities having jurisdiction within the vicinity of any water body and deriving the whole or a part of their livelihood from that water body.</p>	<p>The Fisheries Regulations 2009 No definition of beach management unit included but several sections on beach management units:</p> <ul style="list-style-type: none"> • Section 25 which notes the formation of BMUs under Part III ‘Development of the Fishing Industry’ • Section 133: Establishment and management of BMUs • Section 134: Functions of BMUs • Section 135: National Register of BMUs • Several other references to BMUs, e.g. in relation to vessel licensing <p>Only one mention of co-management in 260 pages:</p> <ul style="list-style-type: none"> • A Beach Management Unit may associate with other Beach Management Units and co-management structures to form higher level Beach Management Units for the purposes of fisheries planning, management and development.

Country	Policy	Legislation	Regulations
	(ii) The Government shall strengthen capacity to implement D by D in the fisheries sector.		
Uganda	<p>National Fisheries Policy 2004</p> <p>Part of vision: participatory fisheries management institutions that build on community and stakeholder structures leading to the generation of adequate incomes to alleviate and prevent poverty; (p.11-12) Key roles of the centre under decentralisation</p> <p>(13) Communities, under decentralisation policy, are expected to take a leading role in husbanding their resources especially in near shore waters.</p> <p>(22) Policy Area No. 2: Decentralisation and community involvement in fisheries management Stakeholders will be involved in the management of fisheries by devolving some decision-making responsibilities to local governments and communities.</p> <p>(24) Policy Area No. 4: District, sub-county and community co-operation in fisheries management</p> <p>Districts, sub-counties and communities will co-operate in the management of shared fisheries and aquatic ecosystems.</p>	<p><i>Fish Act Cap 197 1970</i></p> <ul style="list-style-type: none"> • Still in force • No reference to co-management or BMUs • Draft Bill has been under consideration since 2004 	<p>Statutory Instruments No. 73 The Fish (Beach Management) Rules, 2016</p> <p>BMU Executive Committee to be comprised of 5 boat owners, 2 boat crew, 1 fishmonger and 1 from the ‘other’ category. At least 3 members should be women. Nominations are made by ordinary BMU members and these go to the head of the district, the Chief Administrative Officer, for appointment. Nominations are vetted by the District Security Committee.</p> <p>Includes sections on:</p> <ul style="list-style-type: none"> • Establishment, composition and functions of BMUs • Roles of chairperson, committee, assembly, members and Chief Fisheries Officer • Financing and supervision of BMUs