McConney et al. Maritime Studies (2017) 16:19
DOI 10.1186/s40152-017-0073-5

Maritime Studies

RESEARCH Open Access

Building the Barbados National Union of Fisherfolk Organisations

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Abstract

The Barbados National Union of Fisherfolk Organisations was formed in 1999 under a fisherfolk organisation development project. The aim was for this national body in fisherfolk governance to strengthen the capacities of its local level organisation members. Its evolution from origin to the present illustrates the complexities of capacity development at organisation and individual levels. The former concerns building organisational resilience while the latter is about sustaining livelihoods. Poverty strictly in terms of income, food security and nutrition are not major issues in Barbados, but the fisheries sector lacks an effective collective voice. Hence, fishery workers report feeling less recognised and entitled than workers in other economic sectors. Poverty has evolved conceptually to also consider self-organisation and collective action, consistent with resilience thinking. These new dimensions are important in Barbados. In participatory action research comprising mostly workshops and interviews, the organisation was investigated using an integrated framework for analysing aspects of governance, livelihoods and organisational resilience. The evolution of the Barbados National Union of Fisherfolk Organisations was not linear, and it was impacted by factors favouring both its success and failure to become a resilient fisherfolk organisation. Implementing the Voluntary Guidelines for Securing Sustainable Small-Scale Fisheries in the Context of Food Security and Poverty Eradication (SSF Guidelines) is the current focus for the organisation's capacity development. Examining fisherfolk perspectives on how they will go about developing capacity for and through the SSF Guidelines provided further insight into organisational resilience. Lessons learned from this case are applicable to similar Caribbean fisherfolk organisations.

Keywords: Barbados, Capacity development, Fisherfolk, Livelihoods, Organisation, Resilience

Introduction

Strengthening organisations and collective action in small-scale fisheries (SSF) is currently receiving considerable attention from global to local levels of governance, largely as a means of implementing the Voluntary Guidelines for Securing Sustainable Small-Scale Fisheries in the Context of Food Security and Poverty Eradication (SSF Guidelines) (Kalikoski and Franz 2014). Such attention has been long advocated by scholars who saw the need for alternative directions in managing SSF (Berkes et al. 2001), and who recognised SSF as complex, adaptive, social-ecological systems that require more people-centred approaches (Mahon

et al. 2008). Early reports on fisheries organisation dynamics (e.g. Meynell 1984 and 1990) and theoretical literature on conceptualising collective action applicable to SSF (e.g. Ostrom 1990; Pomeroy 1995) remain relevant.

More recent thinking on human dimensions in ecosystem approaches to fisheries has broadened to incorporate concepts of sustainable livelihoods, social networks, governance and resilience in seeking practical ways to plan collaboratively for strengthening organizations and collective action, such as is required globally (Kalikoski and Franz 2014) and has been attempted in the Caribbean (McConney and Phillips 2011). Poverty is one of those broadening concepts receiving increasing attention in the literature on SSF globally (Béné et al. 2007) and in Caribbean small-island developing states (CRFM 2012a, b). Poverty has evolved conceptually to be broader and also consider self-organisation and collective action, consistent with resilience thinking (Jentoft and Eide 2011). Even if poverty in terms of income, food security and nutrition may not be major issues, if the fisheries sector lacks an effective collective voice this aspect needs to be taken into account.

Some authors argue that recent empirical evidence from fisherfolk organising should cause researchers and practitioners to re-think the conceptual frameworks employed for fisheries organisation investigation and intervention, to consider additional factors and strategies (Pinho et al. 2012; Basurto et al. 2013). They suggest that, even when conditions are not ideal for collective action, and barriers exist, social actors are sufficiently adaptive to devise strategies for developing capacities to take action that is either compatible or incompatible with achieving sustainable fisheries. Determining how fisherfolk organizational capacity for collective action develops, and for what purpose, is relevant to the implementation of the SSF Guidelines.

To obtain insight we examined the development of capacity in the Barbados National Union of Fisherfolk Organisations (BARNUFO) from its formation in 1999 to the present. BARNUFO is a secondary (national) level body originally comprising only primary (local) level site-based fisherfolk groups, but now open also to any individual. BARNUFO is, in turn, a member of the tertiary level Caribbean Network of Fisherfolk Organisations (CNFO) (McConney and Phillips 2011). The CNFO is an alliance of national fisherfolk organizations in the 17 member states of the Caribbean Regional Fisheries Mechanism (CRFM). The CRFM has formulated a Caribbean Community Common Fisheries Policy, which could be an instrument for giving effect to the SSF Guidelines. The CNFO is seeking to play a leading role in implementing the SSF Guidelines in the Caribbean (FAO 2013). BARNUFO's evolution offers insights into the capacity development needs and dynamics of a small fisherfolk organisation, and how it is preparing to implement the SSF Guidelines. The analysis illustrates the complexities of capacity development from organisational to individual levels. To a large extent the former concerns building organisational resilience while the latter concerns sustaining fisherfolk livelihoods, with governance as an overarching dimension.

The next section sets out the integrated conceptual framework and methods used to investigate the case. The results of applying the framework follow, starting with the vulnerability context, examining adaptive capacity and resilience, and ending with plans for implementation of the SSF Guidelines. Finally we

discuss the implications for developing capacity in general, as well as in association with the SSF Guidelines, for BARNUFO and similar fisherfolk organisations.

Concepts and methods

The integrated conceptual framework and participatory methods are described in this section.

Concepts

The 'governance-livelihoods-organisational-resilience-integration' (GLORI) framework (Fig. 1) was assembled for analysing capacity development in relation to fisherfolk organisations and collective action (McConney and Medeiros 2014). It is based on the conceptual broadening previously introduced, and acknowledges that sustainable livelihoods are the main interests of most fisherfolk organisations, as stated explicitly in BARNUFO's constitution. Although sustainable SSF conservation and development, such as via the SSF Guidelines, seems entirely consistent with governance for sustainable livelihoods and organisational resilience, it cannot be assumed that the capacity to implement fisheries instruments either exists or will be developed in fisherfolk organisations given their multiple, more immediate, and competing priorities. It would be ideal for the integration of governance, livelihoods and organisational resilience to be seamless and mutually supportive as presented in the GLORI framework, but is this the reality?

The conceptual components of the GLORI framework are not new, but their integration is not commonplace. There is abundant literature on fisherfolk organisations such as cooperatives (Jentoft 1985 and 1986, Hannesson 1988, Meynell 1984 and 1990), on co-management (Brown and Pomeroy 1999, Pomeroy et al. 2004, Pomeroy and Rivera-Guieb 2005) and on adaptive co-management (Armitage et al. 2007, Trimble and Berkes 2015). These provide much information from both conceptual and empirical

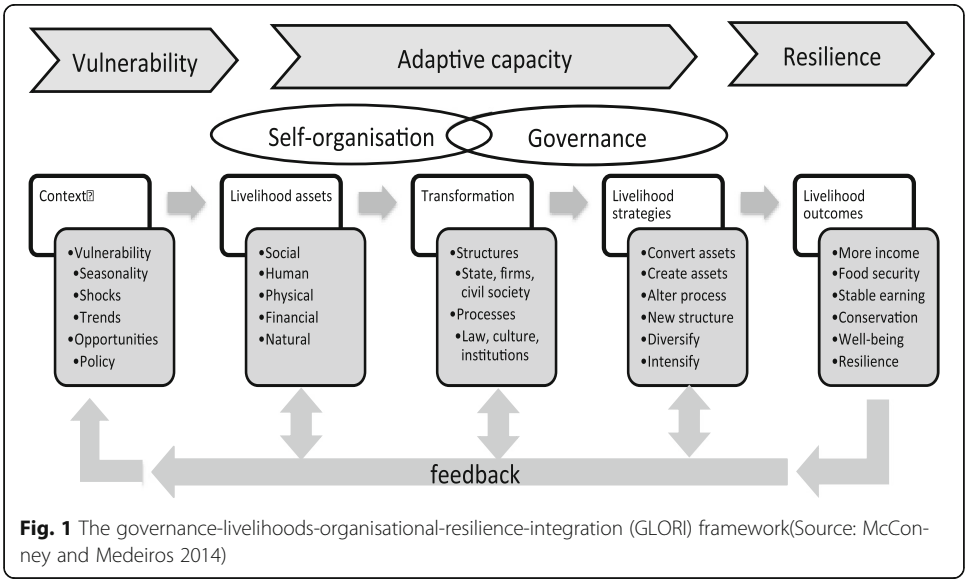

Fig. 1 The governance-livelihoods-organisational-resilience-integration (GLORI) framework(Source: McConney and Medeiros 2014)

analyses. Combined, these literatures address governance, livelihoods and organisations in relation to ecological issues that are relevant to the ecosystem approach to fisheries, and which are consistent with the resilience thinking on social-ecological systems (Lebel et al. 2006) that pervades the SSF Guidelines. The GLORI conceptual framework, based on the sustainable livelihoods approach (Allison and Ellis 2001; Béné et al. 2007), integrates governance, livelihoods and resilience with a focus on organisations. It scales up livelihood analysis. Sustainable livelihoods need to be examined from the perspectives of groups, networks and especially organisations in addition to individuals, their enterprises and households. Ideally, one should see a fisherfolk organisation advance from vulnerability towards desirable resilience through the development of adaptive capacity emerging from members acting collectively. GLORI accommodates such dynamics.

Scanning across the GLORI framework, the vulnerability context includes the natural aquatic ecosystem's bio-physical and ecological elements. Consistent with a working definition of interactive governance that includes self-organisation (Kooiman et al. 2005), GLORI includes institutional structures and processes (as does livelihoods analysis) for the creation of organisational and societal opportunity in addition to problem solving. In this key area of adaptive capacity all five types of livelihood assets are important, but we are concerned mostly with human and social capital and their roles in organisational capacity to self-organise. This incorporates access to and influence upon structures and processes that favour resilience and transformation. Links between collective action and governance in social-ecological systems are many (Ostrom 1990 and 2009). Human capital is instrumental in leadership and enabling key individuals to be change agents. Attention must be paid to structures, patterns and relationships within social networks and organisations (Diani and McAdam 2003). Networks can be avenues to new resources and empowerment (McConney et al. 2011b). Social networks are prominent in access to people and resources (McConney 2007) in self-organisation led by key actors (Borgatti 2006) and in collective action (Flores et al. 2012). Network governance (Bodin and Prell 2011) is a feature in institutions for resilience and transformation (McConney and Parsram 2008, Parsram and McConney 2011). Livelihood strategies change over time and built resilience that depends upon feedback from their outcomes and external circumstances. Organisational and individual strategies contribute to the self-organisation that facilitates transformative change (Olsson et al. 2014) if conditions within and surrounding a social-ecological system are favourable. Livelihood outcomes achieved through fisherfolk organisations achieve success and hence resilience in relation to objectives aimed for through the implementation of the SSF Guidelines (FAO 2015).

Methods

Each component of the GLORI framework contains concepts that are associated with several methodologies for measurement. One approach would be to construct a suite of linked indicators for quantitative and qualitative measurement. Such a mixed methods approach is highly desirable when sufficient prior information exists from which to construct system models for measurement (Creswell 2013). However, we tested the GLORI framework in participatory action research with BARNUFO under

data poor conditions. Less complex exploratory methods, consistent with fisherfolk knowledge systems, preferences for engagement, and interests were necessary to obtain a better understanding of BARNUFO capacity development. The research was conducted mainly from November to December 2013 in collaboration with BARNUFO. Since 2014, the findings have been updated through informal interviews. The investigative team was comprised of academics, fisherfolk and process consultants. Resource persons, serving as mentors for BARNUFO, assisted the research and its validation. The government fisheries authority was fully involved. The applied research was simultaneously an exercise in capacity development.

The scant published literature on fisherfolk organizations in Barbados was reviewed. BARNUFO and the government Fisheries Division provided data and unpublished documents. The evolution of BARNUFO could not be reconstructed from documentary evidence or institutional memory in any one place. It was very fragmented, and most data resided in the fisheries authority due to unreliable record keeping by BARNUFO. Key informant interviews provided additional insight.

Workshops for research (12 Dec 2013) and fisherfolk validation of findings (28 Dec 2013) were conducted using interactive methods (Blackman et al. 2013). The BARNUFO timeline, factors favouring success and failure, and perspectives on the SSF Guidelines were workshop outputs. The timeline process used a snowball method as memories were shared, prompting others to fill gaps. Workshop participants individually identified factors of success and failure before discussing results together. Similar to the factors, SSF Guidelines capacity development points were noted and discussed. About 30 fisherfolk and fisheries officers participated in the research.

Results of the research and validation workshops (Blackman et al. 2013) were woven into a case study report presented at a FAO workshop in Barbados in 2014 (FAO 2016). The Barbados case built upon a Caribbean analysis presented at a FAO workshop in March 2013 (Kalikoski and Franz 2014) by adding situation-specific insight focused on one organization. The participatory processes used with BARNUFO were intended to improve institutional memory and develop capacity for fisheries governance. Fisherfolk who participated wanted practical follow-up such as improvements in organization administration, projects that can yield income, and initiatives that tangibly enhance their livelihoods and well-being.

Applying the framework

The GLORI framework is applied to BARNUFO's evolution in terms of vulnerability context, adaptive capacity and building resilience. Examining linkages with sustainable livelihoods is a common thread throughout the analysis, as are interactions within the governance arrangements.

Vulnerability context

Barbados is the most eastern Caribbean island (Fig. 2). The low relief, coralline, island has a land area of 430 km^2 and the island's marine shelf is 320 km^2 in area.

The government's fisheries authority provides unpublished statistics and a comprehensive description of conditions in and around Barbados (Fisheries Division 2004) from which the following information is drawn. The surrounding oceanic surface

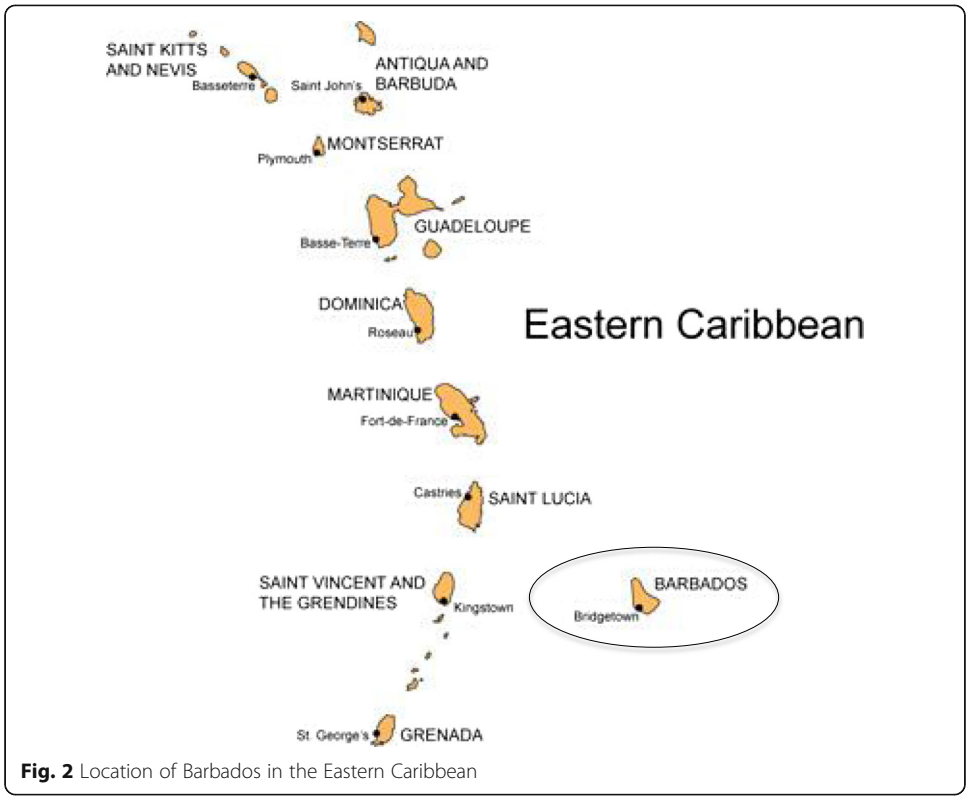

Fig. 2 Location of Barbados in the Eastern Caribbean

waters are relatively low in productivity. Surface currents off Barbados usually flow towards the northwest, sometimes bringing water lenses of lower salinity from the Amazon and Orinoco Rivers of South America. There are four main types of fishing boats in Barbados based on physical features and fishing methods as summarised in Table 1.

Since the small island shelf cannot support a large demersal fishery, a multifleet, multigear, multispecies fishery for offshore pelagics is predominant. These species are seasonal, and for most the main season runs from November to July when over 90% of the annual catch (3000–5000 metric tons) are landed. Peaks of high abundance shift interannually within the season. Seasonality and the absence of a clear increasing or declining trend in total catch are important features. The most important species is the small pelagic fourwing flyingfish (*Hirundichthys affinis*) that usually comprises about 55% of total annual landings. Dolphinfish (*Coryphaena hippurus*) is the second most commercially important pelagic species in Barbados, usually comprising about 30% of the total annual landings. Many of the other pelagics are highly migratory species under the jurisdiction of the International Commission for the Conservation of Atlantic Tunas to which Barbados is a Contracting Party. Global and regional transboundary fishery issues predominate.

Demersal slope and bank species such as snappers (Lutjanidae) and a variety of shallow shelf reef species are more important during the hurricane season (June–October). Then, large pelagics and flyingfish are less abundant, and many boats are hauled out for maintenance. There are only small inshore fisheries for spiny lobster (*Panulirus argus*) and conch (*Strombus gigas*). Barbados fisheries rely on small coastal pelagics and reef resilience much less than neighbouring countries, and may be less impacted by changes in climate and natural hazards despite the uncertainties.

Table 1 Features of the fishing fleet

Features	Moses	Dayboat	Iceboat	Longliner
Structure	Open, wood, fibreglass	Decked, wood, fibreglass	Decked, wood, fibreglass	Decked, wood, fibreglass, steel
Boat length	3–6 m	6–12 m	12–15 m	>12 m
Propulsion	Oars, outboard, 10-40 hp	Inboard, diesel, 10-180 hp	Inboard, diesel, up to180hp	Inboard, diesel, over 180 hp
Main fisheries	Reef and coastal	Flyingfish and large pelagics	Flying fish and large pelagics	Tunas, billfish, swordfish
Fishing methods	Hand and trolling lines, fish traps, cast nets	Hand and trolling lines, gill nets, hoop nets	Hand and trolling lines, gill nets, hoop nets	Longline, trolling lines
Trip length	0.5 day	1.0 day	5–10 days	12–28 days
Crew size	1–2 people	1–2 people	2–3 people	4–5 people
Fleet size	Approx. 485	Approx. 250	Approx. 190	Approx. 30

Source: Fisheries Division (2004)

Fisheries in Barbados are under the jurisdiction of the Fisheries Division of the Ministry of Agriculture, which estimates total employment in the fisheries sector at 6000 people. Based on official statistics the sector contributes 0.5–1.0% of Gross Domestic Product annually to the economy, but this is likely an underestimate (Mahon et al. 2007). Fish is important for local food security and exports are low in both volume and value compared to other countries that have fisheries for lobster, conch and shrimp. Seafood imports exceed exports, and much is brought in to support the critical tourism sector. The 1993 Fisheries Act is the main legislation, and although fisheries management plans are required, all fisheries in Barbados are open access with little enforcement of or compliance with regulations.

The only fisheries-specific poverty study reported from a sample survey that there were no poor fishery households in Barbados and less than 10% were vulnerable (CRFM 2012a). Households tended not to depend on income from fisheries alone, while health and nutrition were not issues. The study noted, however, that participation in fisheries cooperatives or associations was low. It stated: "that Barbadian fishermen do not feel that they are involved in the decision-making process as they are not consulted by the fisheries administration as individuals or through an association" (CRFM 2012a: 222). The equivalent section on postharvest and an all-female sample had comments on the need to facilitate business, not collective action or governance.

In the early 1960s the colonial public service initiated Cooperative Fishing Savings Societies while maintaining fishing industry incentives such as credit schemes and technical assistance that were accessible by individuals (McConney et al. 2000). Fisherfolk were enticed to join the early cooperatives more as a means of establishing their fishing industry *bona fides* for receiving government goods and services as individuals than by the prospect of collective action. After independence in 1966, new national development politics favoured social democracy including cooperatives and grassroots social movements, but by the 1970s many cooperatives had failed due to poor management (McConney 2001). In the 1980s, several fisherfolk associations started as collective action for different reasons. These reasons included conflicts between fishers and boat owners, between fishers and law enforcement agencies, and among fishers, boat owners

and the government over landing site access and facilities as well as access to the exclusive economic zone of a neighbouring country (McConney et al. 2000). All of these conflict-driven associations received some support from the fisheries authority, but most were short-lived once the initial motivational crisis had passed, even temporarily. The fisherfolk association, rather than the cooperative, became the preferred form of organization due to its flexible structure and function, unconstrained by legislation, free to adapt to circumstances.

Adaptive capacity

In order to analyse adaptive capacity (spanning livelihood assets, transformation and strategies in the GLORI framework) it was necessary to first understand the origins and aims of BARNUFO in the context of vulnerability such as inadequate socio-economic conditions and voice. It was formed in March 1999 as a secondary fisherfolk organisation when about a dozen active primary (fish landing site) organizations were available to be its founding members. BARNUFO was an output of a government initiative to mobilise fisherfolk through an externally funded Fisherfolk Organisation Development Project (FODP). The objectives of the FODP (Atapattu 1997) were in the long term to sustainably improve the welfare of fisherfolk through organizations, and immediately to establish fisherfolk organizations capable of active participation in fishery management and development.

According to the project consultant the government's 1997–2000 Fisheries Management Plan provided justification for the FODP as a means of transformation (Atapattu 1997). Since none of the early colonial (1960s) and post-independence (1970s) fisherfolk cooperatives had survived, he found that fisherfolk were reluctant to create formal bodies, so he encouraged the strategy of informal associations instead. They would not have legal status, so he used constitutions adapted from Sri Lankan organizations to provide internal legitimacy as an interim step towards formalisation.

Challenges remained even after associations were formed, with Atapattu (1997, 1998a, 1998b) identifying the main capacity development constraints as:

- Lack of leadership in the organizations and in the fishing industry generally
- Inability of organizations to collect membership fees and other dues from members
- Limited revenue-generating activities undertaken to be financially sustainable
- Failure of organisations to provide essential services to members
- Inability to conduct meetings due to lack of quorum and chronic low participation
- Persistent notion that everything for organizations should be provided by government
- Inadequacy of information flow from organization officers to the general membership
- Lack of communication between the Fisheries Division and fisherfolk organizations

Atapattu (1998b) recommended a post-FODP phase to develop organizations' plans for micro-enterprises or small businesses to diversify their operations for economic viability and member confidence. This was not done, however, as neither the fisheries authority nor the fisherfolk organisations had or sought the expertise for business

planning. When the FODP ended no organizations had the stability or capacity for even basic administration and management. Although not tested, it was also unlikely that the Fisheries Division had the capacity to lead a thrust towards developing fisherfolk organization economic activity. In the intervening years, the number of active primary fisherfolk organizations has declined, largely due to deficiencies in leadership and management capacity, to about four that are barely functioning. Yet BARNUFO has survived and sought to develop capacity in itself and the fishing industry.

BARNUFO's core objective is still to improve socio-economic conditions based on the sustainable development of fisheries. To achieve this, its constitution provides the authority for BARNUFO to deal in commercial goods and services, train fisherfolk and engage in fisheries management. Initially, these were linked to provisions for increased fisherfolk organization participation in national fisheries co-management under a 2000 amendment to the Fisheries Act that gave the most representative fisherfolk body a seat on the Fisheries Advisory Committee (FAC). The FAC is a statutory body set up to advise the minister of fisheries on policy and practices. Although, since 2000, BARNUFO has been appointed to the FAC, there is little evidence of its influence upon fisheries policy. In 2007 BARNUFO became a founding member of the CNFO. Figure 3 shows some of BARNUFO's key relationships with other entities.

The remainder of the section examines the adaptive capacity of BARNUFO in more detail by highlighting the main types of activity that have characterised BARNUFO from its formation to the present. Table 2 provides a timeline of activities and selected external events.

The timeline was constructed from document analysis and fisherfolk workshops. The timeline exercise impressed workshop participants, who suggested that BARNUFO needed to improve its communication so that the industry would know more about what was accomplished. Comparing the timeline to the list of authorised areas in the BARNUFO constitution, three stand out as having received the most attention for capacity development in the following order:

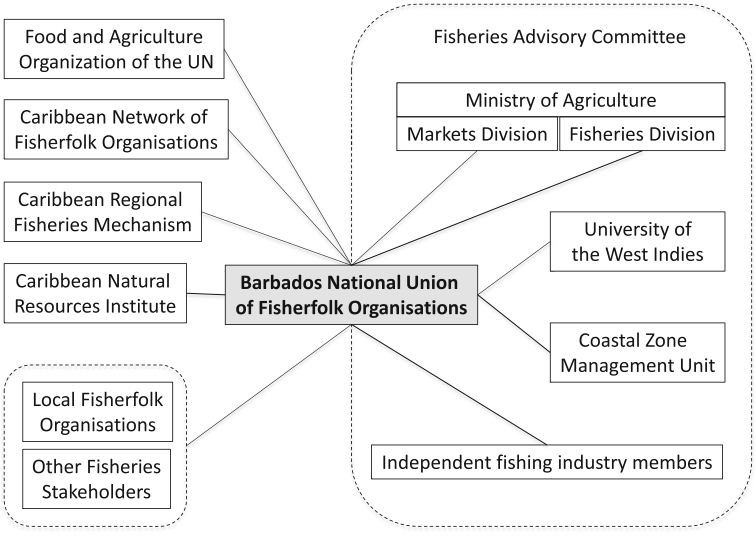

Fig. 3 BARNUFO's key relationships with other entities

Table 2 Timeline with highlights of international (external) and BARNUFO (internal) activities, 1995–2014

Period	Locus	External Activities
1995 to 1999	Ext.	• Fisheries Division emphasises co-management for governance • First Fisheries Management Plan 1997–2000 crafted largely by FAC
	Int.	• BARNUFO to focus mainly on activities for revenue • Leadership acknowledges the need for a 5-year strategic plan
2000 to 2004	Ext.	• CARICOM governments initiate fisheries policy and regime • CRFM does regional fisherfolk organization needs assessment
	Int.	• Fisheries Management Plan 2001–2003 assisted by BARNUFO • Holds meetings to revive or maintain interest in organizations
2005 to 2009	Ext.	• No Fisheries Management Plan available since 2004–2006 • Regional fisheries management plan for flyingfish drafted
	Int.	• Attended training in "Women's leadership in fisherfolk organizations" • Participation in CRFM regional workshops for fisherfolk organizations
2010 to 2013	Ext.	• End of negotiations on the CARICOM Regional Fisheries Policy • FAO global project in support of the SSF Guidelines in progress
	Int.	• Invited to join CNFO coordinating unit, extending organisational reach • Attended a CNFO workshop on Ecosystem Approach to Fisheries

Source: Fisheries Division files and fisherfolk workshop

1. Train members in activities pertaining to the fishing industry and related matters
2. Negotiate with government or other local or international agencies on matters of interest to members
3. Engage in all other activities incidental to the aforesaid objectives

In terms of impact, fisherfolk agreed that the second and third areas paled in comparison to the first. Conspicuously absent from BARNUFO's repertoire are the revenue-generating and innovative business ventures envisaged as follow-up to the FODP. Instead the focus has been on indirect means of enhancing fisherfolk livelihoods; typically through training. The organization consults with fisherfolk to find out what type of training they require or desire based on their self-assessment of vulnerabilities and preferred outcomes from livelihood strategies. There is an annual fisherfolk training course, and more opportunistic courses, as part of its commitment to capacity building. BARNUFO is adept at networking and partnering for training. However, the training is usually freely accessible to all in the industry, not only its members. BARNUFO leaders have argued that this open approach shares the benefits of organization membership to lure outsiders. However, it also encourages free-riding that undermines collective action and drains BARNUFO of resources.

Some of the demand-driven training offered by BARNUFO is in conjunction with the Fisheries Division and other agencies such as the Coast Guard, Red Cross and Small Business Association. It has included navigation, safety of life at sea, first aid, engine maintenance, small business management, introduction to the computer, fish handling and quality assurance. There has been no systematic monitoring and evaluation of the training, but fisherfolk are unanimous on its positive impacts on individual livelihoods over the years by building human and social capital.

Social capital has not been a priority of BARNUFO given recent low levels of overt conflict in the fishing industry. However, there is often tension between harvest and postharvest actors as boat owners and fishers accuse fish vendors and processors of

setting unprofitably low ex-vessel prices, at times through collusion. They say the profits of the postharvest sector are inequitable given the hard work and risks of their harvest sector. The current President of BARNUFO, a fish vendor by profession, has had to make a special effort to convince the harvest sector that her livelihood does not unduly bias her representation of the industry and choice of the areas upon which BARNUFO focuses its capacity development. In her case gender may also be a factor, but there has been very limited gender analysis in Barbados, and gender in Caribbean fisheries is poorly understood (McConney et al. 2011a). Two out of the three BARNUFO Presidents were women, and the organization has been gender aware from inception. However, gender was not perceived to be a major issue in, or for, BARNUFO.

Taking a closer look at gender, Atapattu (1997) recommended fisherfolk leadership training for both men and women. Female recruitment to the Fisheries Division has increased, and today women are found at all levels in the fisheries authority. The most recent chair of the FAC and its fisheries scientist were female. Women who want to go to sea to harvest fish complain that fishermen do not take them seriously and refuse to have them as regular crew, thinking them unlikely to stick with the work. There is currently only one well-known female boat captain and a few female fishers on the island. Some women at a workshop reported that men discouraged them from fishing. On the other side, the perceived tyranny of female vendor price-setting has been one of the frequent, although short-lived, motivational factors for male boat owner and fisher collective action for decades. More young men are said to be taking up postharvest fish cleaning and other tasks previously done by women in order to earn quick and relatively easy income with no educational or other formal requirements. BARNUFO is aware that the increasing number of minimally qualified young men seeking to enter the open access fisheries is a potential issue coupled with the use of fisheries assets (e.g. boats) for crimes such as smuggling. BARNUFO has proposed projects on fisheries livelihoods and skills transfer such as gillnet construction and maintenance to prepare a younger generation. This is tied to maintaining cultural heritage, increasing the research material available on the fishing industry and ensuring youth are trained within the industry. All of this suggests that gender needs to be considered more in BARNUFO capacity building than it has in the past. Mainstreaming gender, as a component of national fisheries policy and BARNUFO's advocacy, was proposed in a workshop (Blackman et al. 2013).

Networking and external relations are aspects of social capital. Although BARNUFO (2002), in its 2002–2006 strategic plan, identified networking as an area requiring attention, particularly as a means of capacity development and resource mobilisation, its networking has largely been opportunistic. The organization is reasonably well known and connected nationally and regionally. Post-disaster relief efforts following hurricanes (e.g. Grenada in 2004) have earned BARNUFO respect in neighbouring countries, but some countries complain of Barbadian vessels fishing illegally, and BARNUFO has done little to address this. Nationally, as a member of the FAC, BARNUFO has access to other policy-level fisheries stakeholders such as the Fisheries Division, Markets Division, Coastal Zone Management Unit and University of the West Indies. Relationships with academia and NGOs involved in development, research, advocacy and more have afforded BARNUFO several opportunities. The Caribbean Natural Resources Institute has supported BARNUFO through projects to build capacity for fisheries governance.

Tabet (2009) observed that several external agents have attempted to strengthen BARNUFO. Information and communication technologies have impacted the organization minimally. However, BARNUFO is quite aware of its unexploited potential. In 2012 it launched its web site and Facebook page, but these have not been well managed or promoted, so have limited reach. BARNUFO has offered computer courses to fisherfolk, but many aspects of this potential have not yet been realised.

Regarding natural capital, BARNUFO has also occasionally engaged in fisheries management and conservation through its membership on the FAC. However, even though some of its leaders have capacity in ecosystem approaches, climate change adaptation and other current issues in fisheries, the organisational capacity to address these remains low as admitted by fisherfolk. It is likely that persistent low capacity is a reflection of these issues not being in the mainstream of Barbados or Caribbean fisheries management. These topics are discussed, and information exchanged, mainly at conferences rather than in everyday settings. Engaging these concepts and issues have often not advanced beyond awareness. The inshore reef fishery is under threat from habitat degradation, overfishing and invasive species but again, in the absence of a fisheries management plan, there has been no sustained effort to address issues that have implications for livelihoods.

Regarding financial capital, contrary to the expectations of the FODP in the late 90s, financial sustainability has not been a priority for BARNUFO. Sources of finance have included:

- Membership fees from the few primary organizations
- Government annual subvention and project grants
- External small grants based upon project proposals
- Fees earned as collaborators in externally-led projects
- Travel sponsored by inter-governmental agencies, NGOs
- Donations, e.g. for Fisherfolk Week, post-disaster relief

Apart from the minimal membership fees and government subvention, few of the incoming funds are unrestricted and they do not support core administration or capacity building. Access to formal and informal microfinance for fisheries is limited in Barbados. Government and private sector credit agencies avoid taking risks with fisheries. Part of the credit problem is said to be insufficient information being shared with finance officers for business planning. The industry has a reputation for defaulting on government loans even when earnings are high (McConney 2001). BARNUFO has made alliances with the Small Business Association for training and to promote the professionalization of jobs in the fishing industry. Informants reported that levels of interest in business training and professional certification in the industry are low. BARNUFO does not offer any social protection schemes such as retirement or disaster relief funds, but it has encouraged fisherfolk to make use of the country's National Insurance Scheme. Poverty in terms of income, nutrition and social welfare are not major concerns.

BARNUFO's free access to physical capital includes office space, meeting space and a training room within the Fisheries Division building. Concerning the industry, BARNUFO has dealt with poor or poorly operated government fish freezing and

refrigerated storage facilities as a recurrent issue along the value chain and as a severe constraint on improving livelihoods. It has been seeking policy, law and practices to improve sanitary conditions in fish markets in order to meet export requirements and also to improve local consumer confidence so as to compete with imported seafood. Harvest sector infrastructure ranging from boatyards to wharves has also been dealt with by BARNUFO from time to time, but decent employment and working conditions are not major issues in either harvest or postharvest in the Barbados fishing industry.

Building resilience

A governance perspective was useful for examining the transforming structures and institutions applicable to both individuals and organizations. Its original constitution constrained the membership of BARNUFO to registered primary organisations, each represented by two delegates to form the general body of BARNUFO. This structure fell apart as the façade of many primary organisations, built by the FODP on shaky foundations, began to crumble when the project finished and the Fisheries Division was either unable or unwilling to sustain the support required to assist the many fragile organizations to become well established (McConney 2001). Although two of the three Presidents of BARNUFO, both women, developed leadership skills through local and overseas training courses, leadership training for fisherfolk leaders in succession planning remains sadly lacking. This section examines BARNUFO's overall governance-related resilience with the timeline detailed in Table 3.

Table 3 Timeline with highlights of BARNUFO governance, 1995–2013

Period	BARNUFO governance
1995 to 1999	• Fisherfolk Organisation Development Project (FODP) initiated in May 1997 • Primary organizations discuss secondary organization draft constitution • Barbados Coordinating Council of Fisherfolk Organisations formed as steering committee stage • BARNUFO was administratively registered with the Fisheries Division in March 1999 • Thirteen primary fisherfolk organizations plus one secondary body are registered on paper • A woman from a fishing family elected to be the first President of BARNUFO
2000 to 2004	• Fisheries Division allocated an area in its building to create office space for BARNUFO • BARNUFO allocated membership on the FAC through amendment to the Fisheries Act in 2000 • BARNUFO develops linkages with organizations to access technical assistance, capacity building • Start of BBD$50,000 annual government subvention to BARNUFO from the Fisheries Division • Subvention to facilitate BARNUFO having a part-time paid manager is not used for that purpose • BARNUFO Strategic Plan 2002–2006 was crafted in a participatory workshop (not fully implemented) • Fisherfolk met in 2002 to reconsider BARNUFO's mandate and functions due to low capacity • Amendments to the constitution were proposed to change membership and board structure • Proposed constitutional amendments were not adopted at the 2002 annual general meeting and were later shelved
2005 to 2009	• Adoption on 12 July 2006 of amendments to the constitution that were formulated in 2002 (No follow-up to implement the changes and subsequent boards did not realise changes had been made) • A man involved in the small boat harvest sector who was elected as President proves ineffective • BARNUFO helped to form the Caribbean Network of Fisherfolk Organisations (CNFO)
2010 to 2014	• Further suggestions made for changes to the constitution without implementing 2006 amendments • A woman involved in postharvest as a fish vendor/small processor elected as President • Lacking a strategic plan, attempts were made to implement and monitor a few 90-day action plans • President of BARNUFO successfully completes a university certificate course in NGO Management

As the number of functioning organisation members declined, BARNUFO found it difficult to hold meetings or elect officers. By 2001, BARNUFO was in trouble, having only about ten people if all organisation delegates participated. A participatory strategic planning process was conducted to address BARNUFO's future (BARNUFO 2002). One of the outputs was a task force that critically examined BARNUFO's governance in terms of membership and leadership, and proposed constitutional amendments. The analysis in Table 4 summarises the situation facing BARNUFO in 2002.

In the amendments to the constitution, the categories of membership and the number of delegates were changed to allow the body to develop greater internal and network capacity, to include the fishing industry, non-fishery individuals and sponsors, and to have a larger pool of members. However, these changes were also designed to retain power in the hands of people actively engaged in the fishing industry. The amendments also partly addressed leadership since the issues identified above could not be completely resolved by new membership categories and more delegates. The amendments added a Projects Officer to focus on revenue-generation and innovation, plus a Membership Officer to address member incentives and maintain readiness for industry-wide representation and collective action. The role of the Assistant Secretary was expanded to include public relations and all types of outreach communication more generally.

BARNUFO currently lacks the capacity to be self-organised due to low levels of participation by fisherfolk and hence limited access to their skills and networks of useful contacts. It requires regular external assistance such as inputs from the Fisheries Division and other partners in addition to their normal collaboration. Collective action in

Table 4 SWOT analysis prior to constitutional amendments proposed in 2002

Strengths	Weaknesses
♦ Dedicated individuals have kept it going	♦ Few organizations are eligible for membership
♦ Some projects implemented successfully	♦ No paid staff to undertake tasks effectively
♦ Office established and well equipped	♦ Directors have to be volunteer managers
♦ Organisation name relatively well known	♦ Leaders do not have enough organization management skills
♦ Regular monthly meetings are convened	♦ Most available funds come from government
♦ Have formulated strategic and action plans	♦ Members and projects supply little capital
♦ Government financial support via grant	♦ Industry does not identify with BARNUFO
♦ Government technical support via officers	♦ Board of Directors does not function as such
♦ Representation on FAC is now a legal right	♦ Monthly general meeting, no Board meeting
♦ Government recognises BARNUFO	♦ Delegates do not make demand for services
♦ Exposed to regional and international scene	♦ BARNUFO does not offer members much
	♦ Constitution not well used as guiding policy
	♦ Attention of industry is still crisis-oriented
	♦ Fuzzy relationship with primaries (members)
	♦ Inability to demonstrate benefits of grant
Opportunities	Threats
♦ To be broker of fishing industry partnerships	♦ Apparent declining fortunes of primaries
♦ Alliances with government and other NGOs	♦ If primaries fail (<3), so does BARNUFO
♦ Financial support for NGOs is available	♦ Government may cease forms of support
♦ Industry looks for lead groups when in crisis	♦ Support from industry generally weak
♦ Government promotion of co-management	♦ Frustration partly caused by poor structure
♦ General public favours organised industry	♦ Departure of key directors due to frustration
♦ Business sector interested in BARNUFO	♦ Inability to survive on volunteer work alone
♦ Much potential for improving the industry	♦ Declining interest due to poor performance
♦ Economies of scale for capital projects	♦ Identification of BARNUFO with few people
♦ Potential to tap reservoir of industry skills	♦ Pressure group function may overwhelm
	♦ Unconstitutional practices become accepted
	♦ Not seeking help/deters offers of assistance

Source: BARNUFO 2002

the fishing industry is generally reactive and in response to crises which tend to mobilise fishers and boat owners most often, but not for the long term. There are no tangible incentives provided either by the organizations themselves or by the State (e.g. via enabling policy) as reward for fisherfolk organising, so efforts rely mainly upon altruism and intangible benefits.

Capacity through and for the SSF Guidelines

The final research event was a workshop to investigate what BARNUFO stakeholders saw as the benefits of the organization playing a leading role in implementing the SSF Guidelines nationally and also regionally in association with the CNFO. For example, the CNFO has already stated that it wishes a protocol to the Caribbean Community Common Fisheries Policy drafted to formally incorporate the guidelines into regional fisheries policy. Although some fisherfolk were familiar with the SSF Guidelines, the majority were not.

Workshop participants received an overview of the SSF Guidelines and Caribbean fisherfolk engagement with them, especially since 2012. Participants learned about the involvement of civil society globally in drafting the SSF Guidelines and that fisherfolk were actively using them to inform their members of their rights and to negotiate with government authorities. After this, there was a detailed discussion of the benefits that BARNUFO may expect to get from leading these efforts, and the capacity development required for such leadership (Table 5).

These perspectives were confirmed by fisherfolk in a meeting to validate the workshop results. BARNUFO needed more time and information to prepare a meaningful work plan for capacity development around the SSF Guidelines. The following points were emphasised:

- Get to know the SSF Guidelines well first and then align BARNUFO with them
- Conduct fisheries management planning and information exchanges for Barbados
- Develop meaningful projects and activities on SSF Guidelines topics, not more studies
- Pursue workshops, exchanges, regional and international partnerships for support
- Ensure that policies are enabling, with participatory monitoring and evaluation

Discussion

This case of organizations and collective action in SSF investigated the evolution, from 1999, of BARNUFO as a national fisherfolk body whose members were initially only site-based fisherfolk groups. BARNUFO has prospered and it has struggled. Its evolution offers insight into building adaptive capacity and resilience in such organisations. The analysis used a 'governance-livelihoods-organisational-resilience-integration' (GLORI) framework based primarily on the premise that sustaining or enhancing fisherfolk livelihoods is important to organisations, and hence SSF organisational analysis should take into account the issues and interactions typical of livelihoods analyses as well as governance by the collective.

The GLORI framework proved useful in analysing both the individual and organisational aspects of livelihoods and the consequences for organisational resilience. The

Table 5 BARNUFO perspectives on the SSF Guidelines

Sections of SSF Guidelines	BARNUFO leadership role	Capacity development required
PART 1: Introduction		
Objectives	Link BARNUFO's objective to SSF Guidelines	Ensure objective is understood within the fishing industry
Nature and scope	Adapt SSF Guidelines to national context	Workshops, videos, etc. to promote SSF Guidelines
Guiding principles	Insert into national fisheries management plans	Fisherfolk meetings on specific fisheries plans and projects
Relationship with other international instruments	See above	See above
PART 2: Responsible fisheries and sustainable development		
Governance of tenure and resource management	Help fisheries to become less marginalised	Knowledge on tenure rights; public awareness for industry
Social development, employment, decent work	Advocate more funds to be spent on fisheries issues	Data availability and access; awareness of fisheries value
Value chains, post-harvest and trade	Adapt policies and procedures as outlined in the Guidelines	Advocate for continued training, storage facilities, marketing
Gender equality	Gender mainstreaming	Know about gender mainstreaming
Disaster risks and climate change	Integrate disaster and climate into fisheries plans	Workshops and resources to inform of climate, disaster risks
PART 3: Ensuring an enabling environment and supporting implementation		
Policy coherence, institutional coordination, collaboration	Strengthen communication among stakeholders	Improve organisation website; learn and use more internet and communication technology tools
Information, research and communication	Strengthen communication among stakeholders	Disseminate information to more fisherfolk to get them engaged
Capacity development	Build capacity for effective NGO management overall	Workshop on effectively managing boards of NGOs
Implementation support, monitoring, evaluation	Conduct all above with sustainable financing	Sustainable financing that can combine all above activities

(Adapted from Blackman et al. 2013)

framework needs to be further refined, but it is a step in the direction of a more fisherfolk-focused approach rather than a primarily academic construct. The integration of concepts is essential but challenging due to the different approaches used for measurement and analysis. As expected, empirical evidence will be invaluable for the process of testing and refining the approach. The results of this participatory research are discussed below as a contribution.

Although BARNUFO maintained an impressive record of activity aimed at fishing industry capacity development, it found itself in difficulty with low capacity and rapidly dwindling membership due to issues with internal governance. It then struggled, assisted by external agents and also through self-organisation to correct governance deficiencies and re-build its resilience through adaptive capacity. This is still a work in progress aided by feedback from fisherfolk to identify and address the most critical deficiencies. The SSF Guidelines provide a means for re-building with a clear focus as well as an end goal in terms of setting targets for achievement. Participants, though unfamiliar with the SSF Guidelines, were keen to discover more about them and how they could be of practical assistance. Lessons learned about BARNUFO from secondary sources and from workshops with fisherfolk illustrate the complexity of collective

action and the network of internal drivers and external influences on fisherfolk organizing.

BARNUFO is now preparing for national implementation of the SSF Guidelines. Fisherfolk are considering the implications of the SSF Guidelines for organizational resilience through capacity development. Providing feedback, they recommended an iterative process for building capacity to address the SSF Guidelines This further develops organizational and industry capacity when implementation succeeds. This is an adaptive process for progress, and the following sections briefly discuss in more detail how the GLORI framework provided insight.

Vulnerability context

Ecological vulnerability has not been a priority of BARNUFO despite occasional attention to fisheries management planning. The Barbados fishing industry is accustomed to seasonality in fish abundance as well as considerable variability between and within seasons. Ecological uncertainty is a condition with which fisherfolk can usually cope (Berkes et al. 2001). Only the 1999 sub-regional fish kill and recent massive influxes of *Sargassum* seaweed since 2011 have provoked brief organisational responses to the feedback generated by ecological uncertainty.

There is little or no fisheries management by the state authority. In contrast to global best practice (FAO 2015), there is no fisheries policy or management planning with which the organisation or its members must interact (e.g. via quotas, licences, regulations) in order to pursue their livelihoods. Barbados fisherfolk do not see this as a threat to livelihoods since fisheries science is unfamiliar ground and the State has not proven very competent in the few fisheries it has attempted to manage.

Socio-economic and governance vulnerability, often interwoven, are of much greater concern as illustrated by the BARNUFO timelines. Along the value chain, threats have included conflicts over maritime areas, fish price fluctuations, loss of consumer confidence in fish quality, poor landing site infrastructure and operations that constrain seafood marketing. Unlike fisheries resources, these are treated as key issues that provide feedback for active attention, usually by engaging the government agencies that have shown slow or low responses to addressing fisherfolk livelihood matters. In the poverty context, it is mainly about having a voice in these matters. Poverty was not explicitly identified as an issue in fisherfolk workshops or interviews, but the sense of powerlessness that fisherfolk experience was conveyed particularly in terms of not achieving policy influence. The notion of voice as a dimension of poverty was not evident in the fisherfolk organisation. They did not see poverty as a facet to their vulnerability and did not make attempts to influence policy.

The findings do not suggest that vulnerability has decreased over time. Instead, many of the same threats persist and have become chronic. In addition, new or exacerbated threats are likely if the predictions and projections of climate change and variability for increasing uncertainties about species composition, abundance, seasonality, distribution and life cycles (Nurse 2011) are correct. BARNUFO and the entire fisheries social-ecological systems can expect more surprises, multiple stressors and concurrent perturbations. This makes the need for strengthening adaptive capacity more critical as feedback to inform responses will also be characterised by uncertainty.

Adaptive capacity

In the framework, adaptive capacity considers self-organisation and governance, plus livelihood assets, structures, processes and strategies. The case shows that adaptive capacity is being built very slowly, if at all, by and within BARNUFO. The organisation has settled into a rhythm, still with some assistance from the fisheries authority and a few external entities, keeping busy and offering benefits to the industry that encourage free-ridership. Some have argued that at times it operates as an extension of the Fisheries Division with a high level of dependence that goes well beyond its integrated physical location. These conditions may work against self-organisation by constraining BARNUFO's adaptive capacity, self-determination and innovation. Yet there are several areas that could be built upon in a sustained programme, not just short-term project, of capacity development. Many of these were envisaged in the 2002–2006 strategic plan (BARNUFO 2002) that are still relevant today since many matters have not yet been adequately addressed. Some speak directly to livelihoods and building resilience.

BARNUFO has focused mainly on the human capital of the fishing industry through training events. The issue of leadership now needs to be tackled urgently in order to halt and reverse the trend of decline in landing site organisations as well as to re-energise the BARNUFO Board. Leadership succession planning will assist in conferring resilience. Building assets through sustainable financing will require BARNUFO to have an entirely different, more sophisticated, organisational culture. The business skills of individual fisherfolk leaders have not resulted in organisational economic activity in BARNUFO. Financial innovation and economic activity may become more feasible after leadership training coupled with an expanded board and membership.

Strengthening through social and institutional networking also ties into livelihoods. BARNUFO is aware that network analysis offers insight for designing and implementing organisational resilience. The BARNUFO timelines show that networking is one of the functions in which it has performed well, even if not always strategically. Capacity to lead and manage collective action is another priority that could be addressed as membership is expanded. The validity of BARNUFO as the national representative fisherfolk organisation must be able to stand up to scrutiny much more than at present. Opportunities for transformation (when adaptation is not sufficient), the ability to influence structures and processes, and to craft diverse livelihood strategies, are all likely to improve with networking including regionally and globally through use of information and communication technologies. Such technologies facilitate real-time feedback at all levels.

Fostering partnerships between government and the industry leads on from networking. Here the focus needs to be on improving the enabling policy environment. Fisheries management plans need to be developed collaboratively again in order to reduce areas of uncertainty and offer the industry guidance. These initiatives require the relationship with government to be re-negotiated since the partnership at present is currently rather one-sided with BARNUFO getting little power and authority to go with responsibility. Such re-negotiation is in the process of self-organisation that is a prominent feature of resilience.

Resilience

Poor institutional arrangements and memory have not favoured the development of resilience in BARNUFO. Loss of resilience is apparent from the dwindling membership

and the failure to act swiftly upon the 2006 constitutional amendments to reform BARNUFO. A window of opportunity may be provided by a combination of factors including the current enlightened leadership, willing partners and a global trend to implement the SSF Guidelines. Fisheries are complex and adaptive social-ecological systems. Accordingly, BARNUFO needs to learn from the outcomes to date, and the accompanying positive and negative feedback. Better institutional learning must become a priority. Participatory monitoring and evaluation systems can be instituted, and these processes go well with the feedback needed to sustain livelihoods. The next essential steps are learning for further adaptation. These changes are fundamental, will require considerable leadership and the collective action of many fisheries stakeholders to be sustained over a period of adjustment.

The SSF Guidelines may provide guidance for this evolution, and their inclusion of poverty, gender, decent work and the like could open new avenues for policy influencing by BARNUFO. Poverty is clearly an issue although it is not recognised as such. The female Presidents of BARNUFO did not place emphasis on gender mainstreaming but this is said to be changing. Several other national fisherfolk organisations in the Caribbean resemble BARNUFO. Lessons learned here are applicable to them. Their attention to both livelihoods and resilience is essential if they are to succeed in maintaining and growing membership as well as participating in multi-level fisheries governance.

Acknowledgements
The case study on which this paper was based was presented during the workshop on Strengthening organizations and collective action in fisheries – Towards the formulation of a capacity development programme, held in Barbados on 4-6 November 2014. The workshop was organized by the Centre for Resource Management and Environmental Studies of The University of West Indies and financially supported by the Food and Agriculture Organization of the United Nations (FAO). This journal paper was discussed and reviewed at the write-shop on Strengthening collective action and organization in small-scale fisheries for poverty reduction organized by FAO on 16-18 November 2016 in Rome, Italy. Strengthening collective action and organizations is one of FAO's pillars to reducing rural poverty. The authors thank FAO for supporting the development of this work.

Availability of data and material
not applicable.

Funding
FAO provided financial support.

Authors' contributions
PM and RM developed the GLORI framework, and PM led its field application. BS conducted much of the field research and data analysis. VN led the participation of fisherfolk in the research and the interpretation of results from a fisherfolk perspective. All authors read and approved the final manuscript.

Ethics approval and consent to participate
not applicable.

Consent for publication
not applicable.

Competing interests
The authors declare that they have no competing interests.

Publisher's Note

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Received: 24 May 2017 Accepted: 20 September 2017
Published online: 06 December 2017

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