

Conflict resolution and the delegation of authority in fisheries management: The case of Outer Hebrides Inshore Fisheries Group in Scotland

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Abstract

Using the Outer Hebrides inshore fisheries group (OHIFG) in Scotland as a case study, and stakeholder participation theory as a basis for analysis, this paper explores the conditions that are important for making stakeholder participation work in fisheries management, under the 'modern governance context'. It argues that stakeholder participation can function well under less than what the research literature identifies as ideal circumstances, namely despite on-going stakeholder conflict and a deficient devolution of management responsibility. Even with the absence of a formal conflict resolution mechanism and without a clear delineation by government as to who has the right to formally assume a management role, OHIFG stakeholders in Scotland have been heavily involved in developing a management plan and have made significant progress in implementing it. This paper argues that in the absence of formal mechanisms for conflict resolution and management, informal mechanisms may do the job. Secondly, it is argued that conflicts can in fact have a positive function for stakeholder participation as they bring stakeholders together, clarifying and communicating amongst themselves their interests and values.

Key words: stakeholder participation; fisheries management; conflict; decision-making; Outer Hebrides Inshore Fisheries Group; ideal conditions.

Highlights

- Under the 'modern governance context', it becomes relevant to check whether management conditions based on Ostrom's framework (1990) contribute to successful stakeholder participation.
 - Absence of formal 'conflict resolution' and 'the right to manage' are not major obstacles for stakeholder participation.
 - Conflicts have positive effects on stakeholder participation.
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1. Introduction

Stakeholder participation in fisheries management decision-making, from the conception of the management plan (MP) to its implementation, has been recognised as a key ingredient of good governance (Chuenpagdee & Jentoft, 2007; Coffey, 2005; Nielsen et al., 2015). The challenge is to make it work in practice. For that, there is need to understand the conditions that may inhibit and enhance stakeholder participation. In addition, it is necessary to understand the process of participation; what it means and how it evolves. Finally, it is important to investigate the relationship that exists between stakeholders, such as between the government as facilitator and regulator on the one hand, and the users including all those with an interest or concern in the resources on the other. For the latter, by becoming involved in management, they step out of a predominantly passive and reactive role into a proactive one that makes them responsible partners (Hoggarth et al., 1999; Pomeroy et al., 2011; Pomeroy & Williams, 1994; Yandle, 2003).

It is in line with the above context that the government of Scotland, among others countries such as England, Wales and Northern Ireland, established inshore fisheries groups (IFGs) for the purpose of allowing more and better stakeholder participation (Msomphora, 2015; Pita et al., 2010). The IFG system aims at putting fishers at the centre of decision-making for the development and implementation of management plans for inshore fisheries, while balancing fishing interests with wider environmental and socio-economic interests. Although the IFGs will develop local objectives, reflecting local priorities, these have to be complimentary to high-level national objectives (HLOS), under the strategic framework for Inshore Fisheries (Scottish Executive, 2005). IFG members include the local fishing industry (fishers' associations, owners, skippers and crew holding a licence to fish commercially in the area) and representatives of legitimate commercial fishing interests operating in the area, as well as other stakeholders with interests in the area (such as environmental groups, community

members, scientists and other marine users); and also the government authorities, such as those from the municipal council and Marine Scotland¹(Pita et al., 2010).

Stakeholders in the Scottish IFGs have made a good start in taking up responsibilities in fisheries management (Msomphora, 2015). In fact, the stakeholders in the Scottish IFGs have all successfully finished developing their management plans (MPs), which are approved by the government and are now in the implementation phase (Msomphora, 2015; Scottish Inshore Fisheries Groups, 2009). However, the level of stakeholder participation in the decision-making process of the MP development varies among them. In the West Coast of Scotland, the score level on the overall perception for expressing stakeholder satisfaction and participation in the decision-making process for the development and implementation of their fisheries MP is highest in the Outer Hebrides inshore fisheries group (OHIFG) (Msomphora, 2015).

The objective of this study is to explore to what extent and under which conditions stakeholders can be engaged successfully in the development and implementation of management plans. The idea is to examine this question through the lens of Ostrom's (1990) design principles for institutions established for solving collective action problems in the area of resource management. While the coastal state, in a modern governance context, holds exclusive management rights for coastal resources, management responsibility can be partially delegated to stakeholders. The interesting question then is: how can stakeholders be engaged and make them responsible in a context where the coastal state holds exclusive management rights? In particular, the paper explores the relevance of the conditions that are formulated to contribute to the success of stakeholder participation. My starting hypothesis is that the successful engagement of stakeholders depends on the extent to which Ostrom's design principles are fulfilled.

¹Marine Scotland is a directorate of the Scottish Government and is responsible for the integrated management of Scotland's seas (Marine Scotland website).

Section 2 presents an overview of the theory of stakeholder participation, in comparison with Ostrom's design principles. This is followed by Section 3, which is about the methodology employed in the Scottish case study. Section 4 contains the results of the research on OHIFG. Sections 5 and 6 draw conclusions from the research relevant for the assessment of stakeholder participation in fisheries.

2. Stakeholder participation under devolved management

Stakeholder participation in fisheries management can take place in different forms. Under the 'modern governance context'², which is the case in the present study, the coastal state holds exclusive management rights and local stakeholders can only be given partial management rights as deemed fit by the state. With partial devolution of management powers to stakeholders in terms of their active involvement in the formulation of management plan functions, it becomes relevant to check whether the design principles Ostrom (1990) deemed necessary for the success of stakeholder participation in fisheries management have been fulfilled.

Ostrom's influential theory (1990) on self-governing, long-enduring institutions for collective and collaborative resource management initiated a debate about conditions and principles for collective action. The eight conditions listed in her theory (Ostrom, 1990) have been confirmed by other scholars considering situations of self-governance by local communities, but also by those considering stakeholder involvement in situations of co-management (Hoggarth et al., 1999; Pinkerton, 1989; Pomeroy & Williams, 1994; Yandle, 2003). The latter added certain conditions to Ostrom's framework and are described in Table 1 (Cox et al., 2010; Hoggarth et al., 1999; Pinkerton, 1989; Pomeroy et al., 2001; Pomeroy & Williams,

²Under modern fisheries governance, management rights by definition are invested in the coastal state governments (UNCLOS, 1982). The interactive governance approach is generally seen as the way forward under the new model of fisheries governance. Interactive governance is an approach reflecting the recent developments in the concept of participatory governance that suggest a changing discourse from co-management, where fisheries management policy is driven to a large extent by four primary sets of actors: users (fishers), scientists, government administrators and elected officials (Jentoft et al., 1998), towards a system that involves more than these four groups (Jentoft & Chuenpagdee, 2015). The approach takes into account social-ecological issues (Galaz et al., 2008; William, 2005).

1994). Table 1, therefore, indicates the key conditions for successful performance of stakeholder participation, especially in terms of the sharing of responsibility between government and local stakeholders in the management of fisheries (Hoggarth et al., 1999; Ostrom, 1990; Pinkerton, 1989).

Include Table 1 here.

Table 1: Conditions deemed essential for successful stakeholder's participation in fisheries management.

Drawing from the work of these scholars, successful stakeholder participation would seem likely if the governance system in question is set up in order to fulfil the conditions for local community self-management (Hoggarth et al., 1999; Pomeroy et al., 2001; Pomeroy & Williams, 1994; Yandle, 2003). The underlying assumption is the existence of management conditions to enable the managing institutions to form incentives, motives, intentions and actions of multiple stakeholder groups as they respond to management rules and regulations (Hoggarth et al., 1999; Yandle, 2003).

The thirteen conditions (Table 1) for successful stakeholder involvement are briefly presented below, with emphasis laid on the last two conditions. These are of special interest herein, because under modern fisheries governance the coastal state government holds exclusive management rights (UNCLOS, 1982), and the approach entails a wider range of stakeholder involvement, which implies more conflicting interest (de Vivero et al., 2008), resulting in possible tensions. Tensions surface between the differing, and often conflicting demands of various stakeholder groups involved (Coser, 1956; Galuppo et al., 2014). In coastal fisheries management such tensions often surface between large and small boats when they compete for the same resource, as their fishing focus is usually different. Typically, trawl-boats incur larger catches with more focus on commercial species as compared to static-gear fishers who usually (but not exclusively) fish for their own family income and subsistence. Hence, their

contradicting interests ignite tension, making collaborative stakeholder participation challenging.

1. *Clearly defined boundaries* – While clearly defined boundaries of the fisheries' areas may be partially arbitrary due to the multi-scale nature of most fisheries, the process of defining the boundaries of the fishery itself, with manageable size, is necessary for devising appropriate management responses (Dietz et al., 2003; Pomeroy & Williams, 1994; Young, 2002).

2. *Group cohesion* – It is more likely that stakeholder groups are tight and see problems the same way if they live close to each other and the resource (Hoggarth et al., 1999; Pomeroy & Williams, 1994). A high degree of homogeneity in local ideology, customs and belief systems creates a willingness to deal with collective problems (Pomeroy & Williams, 1994). Thus, group cohesion is particularly conducive to effective stakeholder participation, especially with a wider spectrum of involved stakeholders (Cox et al., 2010). It encourages knowledge integration through collective learning and thereby opens possibilities for interactive knowledge development for decision-making in the management processes while ensuring joint resolutions in solving problems faced.

3. *Management organisation* – A fishery organisation with members who have prior experience of managing natural resources within a community provides a good basis for the success of stakeholders in taking on management-functions (Hoggarth et al., 1999; Pomeroy & Williams, 1994). To successfully increase the chance of realising this, both Ostrom (1990) and Hoggarth et al. (1999) argue that the management organisation or core group responsible for the management processes should have the necessary capacity in terms of e.g. enough staff or members, money, suitably trained people for the crucial roles identified, recognised roles, recognised responsibility and motivation (Hoggarth et al., 1999). Such management capacity may help the institutions to induce stakeholders involved to develop acceptance and

resolution strategies and also attitudes that will improve stakeholders' satisfaction with their participation.

4. *Motivation and or incentives* – Stakeholder participation can be ensured when, from the beginning, it is clear to them that benefits exceed the costs of their involvement (Pomeroy et al., 2001). Without appropriate incentives, or motives, stakeholders will not want to be actively involved in management-functions (Pomeroy & Williams, 1994). For fishers, incentives may include early benefits from improved management of the fishery, in addition to secured access to the fishery, long-term control of the resource, opportunities to learn new skills, tangible benefits such as more fish or larger fish and social recognition. For the authorities, incentives may include e.g. salary, promotions, training and successful management of stocks (Hoggarth et al., 1999).

5. *Congruence between rules and local conditions* – Provision of rules that specify restriction of time, place, technology, and/or who can fish and how much they can catch must reflect local conditions and available capacity such as labour, materials and/or money (Hoggarth et al., 1999; Ostrom, 1990; Pinkerton, 1989).

6. *Rules made by those affected* – According to Hoggarth et al. (1999); (Ostrom, 1990; Pomeroy & Williams, 1994), it is better that the rules are made by, or at least with the cooperation of those affected. This includes detailed fishing rules but more so rules governing who can make and change the arrangements guiding the management of the fishery (Hoggarth et al., 1999).

7. *Monitoring and evaluation assessment* – A monitoring system needs to be in place. The organised system should be able to actively audit the status and activities of the fishery, including any rule-breakers (Hoggarth et al., 1999; Ostrom, 1990). Monitoring should be carried out either by the stakeholders themselves or at least by people accountable to them

(Ostrom, 1990). However, monitoring may also be effective if assessment is done by an independent body to avoid bias.

8. *System of penalties* – Fisheries institutions must have a system of penalties (Hoggarth et al., 1999; Ostrom, 1990). “The system should include a mixture of light and severe penalties to deal with different levels of rule breaking and individual circumstances. Penalties should be seen to be given out. This gives confidence to stakeholders that monitoring is effective and rule-breakers are penalised” (Hoggarth et al., 1999, p. 26). By having such a system, rule compliance is encouraged.

9. *Nested enterprises* – The management institution should be supported by a multiple nested type of governance arrangement (Hoggarth et al., 1999; Ostrom, 1990; Pomeroy et al., 2001). As fisheries resources are part of a larger system, managing institutions need to consider multiple forms of each of these ideal conditions such that the appropriation, provision, monitoring, enforcement, conflict resolution and governance activities are organised in multiple layers of nested enterprises (Cox et al., 2010). For instance, the management body could specify multiple types of monitoring, conflict resolution mechanisms and institutional nesting.

10. *Leadership responsibility* – Good leadership skills are needed to enable stakeholders to realise what co-managing the fisheries essentially entails and what they may realistically expect from it. Prominent candidates for such leadership skills, according to Chuenpagdee and Jentoft (2007), include educated local fishers or community members, researchers and conservation groups. Individual stakeholders involved may need incentives to commit time, money and effort into fisheries management (Hoggarth et al., 1999; Pomeroy & Williams, 1994). As such, good leadership is enhanced by existing management conditions in a fishery: stakeholders’ strategy and capacity to mobilise the skills to manage the fisheries is dependent on the prevailing circumstances (e.g. people and money, skills, management rights and

motivation) of the fisheries, (Hoggarth et al., 1999; Msomphora, 2015; Pomeroy et al., 2011; Yandle, 2003).

11. *Communication system* – Adequate coordination and communication organised in multiple layers of nested enterprises are also necessary, especially with multiple partners (Pomeroy et al., 2011). With the involvement of all interested stakeholders as partners in co-regulated fisheries management, it is important that stakeholders' role, goals, purpose, operation, style and limitations be clarified relative to each other from point zero (Pomeroy & Carlos, 1997). However, this may not be possible without good leadership and the ability to unify involved stakeholders so that they are able to reach agreement and speak with one voice (Jentoft & McCay, 1995).

12. *Conflict resolution* – According to Hoggarth et al. (1999); Ostrom (1990); Pomeroy et al. (2001), conflict resolution mechanisms are a must if resource users are to follow rules. It could be difficult to maintain rules and regulations over a long period of time without conflict mechanisms in place, especially in a system with complex rules as in the case of natural resource management systems (Ostrom, 1990). Yandle (2006) argues that a primary reason for the failure of stakeholders to participate in fisheries management is a combination of information costs and conflict over distribution of the resource. Conflicts among competing stakeholders can be energy-draining, time-consuming, and thus increase transaction costs (Imperial & Yandle, 2005). In this regard, especially keeping the perspective of 'interactive governance' in mind, conflicts over natural resource use can be complex, such that it is a requirement that management institutions have context specific combinations of formal and informal resolution methods in place (Stepanova, 2015).

13. *Right to organise or manage* – Government support, i.e. the government and its political 'power structure', is required to establish commensurate rights and authorities and devolve some of their own powers to the managing stakeholders (Pomeroy, 1995). As Ostrom (1990)

and Chuenpagdee and Jentoft (2007) observe, many commons governance regimes have failed as a result of outside interference by states and power-holding elites. Ostrom (1990) emphasises that the rights of stakeholders to devise their own rules must be respected by external authorities, otherwise, decisions jointly made in the co-management committee may often be over-ruled by top-level managers in government.

The type of situation that is of interest herein is characterised by explicit but partial delegation of management responsibility to local organisations. As mentioned above, Chuenpagdee and Jentoft (2007); Ostrom (1990) comment that partial delegation of management rights at least should avoid the problem of interference by external elites. When the government authorities delegate such power to stakeholders, it means that they will not sabotage but rather support the management system. Nevertheless, such (partial) delegation does not necessarily guarantee that local stakeholder groups get sufficient autonomy vis-a-vis management. As de Vivero et al. (2008) argue, delegation of power can be problematic depending on which stakeholder group(s) are given a say (i.e. who such delegation empowers). They add that devolution of power does not always strengthen stakeholder participation because participation and devolution, especially under a system with an interactive governance approach, where there are a variety of concerns and more than one group of stakeholders involved, “do not bear a linear relationship”: “a claim that has contributed to the processes of devolution being overvalued” (de Vivero et al., 2008, p. 320).

3. Materials and Methods

3.1 The study site

The present paper is based on a case study of the Outer Hebrides Inshore Fisheries Group (OHIFG) in Scotland (Fig. 1). The fishery in this area is executed entirely by UK (Scottish) vessels (Röckmann et al., 2012). The area almost entirely depends on shellfish fisheries, with *Nephrops norvegicus* (Norway lobsters) being a key species. It is caught mostly by trawlers

and creels (Msomphora, 2015). However, *Cancer pagurus* (brown crabs, also known as edible crabs), *Pectenmaximus* (scallops) and *Homarusgammarus* (lobsters) are also important in the area.

OHIFG is chosen because in comparison to the other Scottish IFGs studied by the present author, the stakeholders' level of satisfaction in terms of participation in the fisheries management process is exceptionally high (Msomphora, 2015). In April 2014, OHIFG stakeholders are reported to have successfully started implementing some of the measures in their MP that could be enacted within the framework of existing legislations (Msomphora, 2015). This case study was also chosen due to its location and geographical coverage area and due to the ease of access by researchers in terms of communication and language. Thus, the OHIFG case study represents a relevant opportunity for exploring conditions that are important for making stakeholder participation work in fisheries management. It provides a pertinent chance to learn how incentives and social groundwork are developed for institutions managing fisheries activities such that it is enough to achieve successful stakeholder participation in the decision-making process.

Include Figure 1 here.

Figure 1: Map showing the site of study, i.e. the location and coverage of the OHIFG area (Copyright 2014 MS).
Note: At the time of data collection, there were six IFG areas as portrayed in Fig. 1, but since April 2016, there are no longer six IFGs. The East Coast IFG and the Moray Firth and North Coast IFG have become one IFG called North & East Coast Regional IFG, while the North and the South West IFGs have now merged to one IFG called West Coast Regional IFG. Besides, the name Outer Hebrides IFG has changed to Outer Hebrides Regional IFG.

3.2 Survey design and data collection

The data collection instrument, a questionnaire or semi-structured interview schedule, was developed to assess the management conditions that stakeholders require to take up their roles in fisheries management. The interviews with key informant stakeholders from OHIFG were conducted through face-to-face interviews, skype or telephone meetings/interviews and email. Key informants included the IFG chairperson and secretariat, and all stakeholders'

representatives in the IFG board. The IFG stakeholders' representatives included both the Scottish government authorities and local stakeholders.

The types of questions used in the questionnaire designed for data collection were based on Ostrom's theory of governing the commons (Ostrom, 1990) and management guidelines for adaptive co-management (Hoggarth et al., 1999). Such questions were used to identify and explore the management conditions available and the challenges encountered by stakeholders. For details of interview questions used in this study, refer to the Appendix. In addition, the interviews were documented through field notes and audio recording. For triangulation purposes, literature archives or records, reports and published 'Outer Hebrides Inshore Fisheries Group management plan' (OHIFG MP) were also used. To obtain such documents, experts within the academic and technical field of the study were contacted through emails and phone calls. Some of the information documents were available on-line.

Prior to the interviews with OHIFG stakeholders, as per the description of the above-mentioned set of questions, contact was established with the Scottish Inshore Fisheries Advisory Group (SIFAG), Marine Scotland (MS), harbour authorities, fisheries associations and IFG leaders (chairperson and secretariat). Then the questionnaire was pre-tested and adjusted. Informed consent was obtained from the respondents verbally and in writing before conducting interviews. Respondents were also given time to both consider their participation and ask questions about the research and the researcher (interviewer). In addition, the presence of the audio recording equipment was acknowledged, confidentiality ensured and an opportunity given for respondents to withdraw if they were uncomfortable with being taped. The respondents involved also approved being directly quoted.

3.3 Approach to data analysis

In the case of use of qualitative data, open coding was first undertaken. The process involved reading through all the transcripts and grouping similar responses together as themes emerged (a condensed meaning unit), and attaching labels that are referred to as codes (Bryman, 2012). The preliminary codes were revisited and data were further categorised based on the relevance to the essential management conditions as portrayed in Table 1. The data collected was coded into such established categories to support the generation of ideas. If necessary, suitable categories e.g. problems and challenges encountered, were added, since categories had to be exhaustive and mutually exclusive to ensure that no data related to the purpose was excluded due to lack of a suitable category (Bryman, 2012). Such a process of qualitative analysis helped to confirm that the concepts and categories formulated accurately represented the situation based on the collected data and explored how such concepts and categories were related so as to elicit meanings of the interview responses and or data collected in general. It ensured inter-coder verification, which added robustness, i.e. reliability and validity, to the qualitative analysis of the study (Kohlbacher, 2006).

4. Results

The majority of the stakeholders in the OHIFG indicate that they are satisfied with their participation in the decision-making process for the development and implementation of their management plan. In an earlier publication, Msomphora (2015) indicates that OHIFG stakeholders hold the belief that they are being informed (87%), consulted (83%) and are happy with the process (70%) of decision-making, such that they are optimistic that IFGMP will make a difference (70%). Below are some quotes by stakeholders involved regarding their satisfaction with the process:

I am happy with IFGs. Well you see, if it is our inshore fishery group, and it's in your area, and if you are able to manage it, and you know exactly what is happening with

it, instead of somebody telling us what to do with it. And that's the way to go about it. (Interview, IFG stakeholder)

Well as far as I know I have not heard anybody against IFGs. If everybody seems to be happy with it then let it be. IFGs in Scotland will make a difference. (Interview, IFG stakeholder)

I do not know yet what could be improved to make IFGs even better. I think we just have to wait and see what the outcomes of IFGs will be. Like I said, looking at the mackerel survey coming up this year, and the cockle survey, which is over, we just have to wait and see if it works in every bodies' favour. It is in the early days. So we just have to wait and see, there is nothing more we can do about it now. (Interview, IFG stakeholder)

I am highly satisfied with the IFGs and how we have been involved although there is always room for improvement. Time will tell. (Interview, IFG stakeholder)

The thing is we are kept well informed about everything regarding what is going on in the fishery. (Interview, IFG stakeholder)

They go to meetings and have a consultation and come back to the fishermen for consultation before the decision is made. They cannot just make decisions without consulting us. After our input then the decision is made. (Interview, IFG stakeholder)

Yes, the IFGs will make a difference. Especially since we have got our own plan, we are able to see and improve our fishery, which is better than being controlled by the EU. However, like everything else, you know, there will be some people who will accept that it is necessary and others who will argue that they will survive given things as they are. But at the end of the day, nature takes charge. I am sure they will participate because IFGs are now the way forward and they are promising. (Interview, IFG stakeholder)

Yes, they will make a difference. Especially because I think the IFG works better because of the steering that have voted for him (him meaning the current secretariat). It is the fishermen themselves who are involved in that, who vote him. The other thing is that the views of the fishers are actively used in the IFGs. (Interview, IFG stakeholder)

Management conditions

The analysis shows that there are a number of conditions and principles that facilitate stakeholder participation in the decision-making process for the development and implementation of the fisheries MP. Except for two conditions, namely 'conflict resolution' and 'right to manage', all the key conditions for successful stakeholder participation as indicated in Table 1 are identified as formally existing in the OHIFG.

The following is a description of issues of particular importance for each of the management conditions found present in the OHIFG.

Condition 1: Clearly defined boundaries

All IFGs in Scotland have clearly defined boundaries (all Scottish IFGs including OHIFG) and a clear delineation of the individual stakeholder's (fisher's) rights to withdraw resources exists. Quotas (total allowable catch) and vessel licenses define withdrawal rights to resources. The vessel licenses are offered under ministerial discretion. However, despite the fact that fish quota units (total allowable catch) are usually regarded as a 'property right' (Shotton, 2005), does not mean that property rights are given to OHIFG stakeholders. However, Marine Scotland through UK's quota management rules as well as assurance from government ministers, results in protection being given to fishers. OHIFG is one of the Scottish IFGs with a good geographical coverage of manageable size because its boundaries are based on an ecosystem that stakeholders can easily observe and understand (Fig 1), and its location and size allows for effective management in terms of e.g. transportation and communication.

Condition 2: Group cohesion

The establishment of IFGs in Scotland was originally based on stakeholders' communal idea, with support from the government. Most of the stakeholders reside within the management area of OHIFG. Despite the fact that in Scotland there is a minimum limit necessary to qualify

to be an IFG member (Scottish Inshore Fisheries Groups, 2009), in OHIFG all the interested stakeholders groups, including both non- and associated fishers, are welcome to be represented in the IFG. To ensure representation of all stakeholders' views or opinions, the representatives meet the group/individuals they represent prior to IFG meetings. Decisions are taken by consensus amongst IFG board members. The interested organisations work together with the IFG board to foster developments (networking for advice and information seeking for better decision-making). All this therefore shows that OHIFG stakeholders have a common approach to shared problems; it implies that OHIFG stakeholders have a shared understanding of key objectives that can give them a chance of successfully facing the challenges involved in managing a fishery (Ostrom, 1990).

Condition 3: Management organisation

The OHIFG has a management body (IFG board) in place, which is comprised of the Executive Committee (ExCom) and the Advisory Committee (AC) for management responsibility. The ExCom, which is charged with running of the group, is comprised of the representatives of each included fishers' association, the elected representative of non-affiliated fishers, the group's chairperson and co-ordinator (secretariat). The ExCom is assisted by the AC. The AC is responsible for advising the ExCom in the drawing up of a management plan (cf. Condition 11). The AC is comprised of various inshore and environmental stakeholders, government bodies and non-governmental organisations including Scottish Natural Heritage (SNH), Marine Scotland Science, Marine Scotland compliance, Comhairle Nan Eilean Siar (CNES) and LINK (OHIFG, 2010). The OHIFG's chairperson is independent of the fisheries industry which ensures that management favours are not given. As the chairperson has a political background of being a former councillor for 25 years, gives him the required skills to strategically influence policy-makers or government authorities to listen to their (OHIFG) needs. The OHIFG secretariat has long time experience

in the fisheries industry and is a former fisher. Such skills have enabled the secretariat in collaboration with the other IFG board members to create the required additional restrictive measures to ensure profitability and sustainability of the fisheries. Such measures include a limitation on number of creels per vessel, the increase in minimum landing size (MLS) of lobsters and a ban on landing V notched lobsters (this is now passed as a legislative measure). The secretariat is reported to be influential in Scottish fisheries since he has British parliament membership and a role of liaising with the government on fishing issues. In addition, OHIFG stakeholders have a chance to build their capacity (capacity building), e.g. through educational visits nationally and internationally, with support from the government. This helps the OHIFG body attain management responsibilities required to provide a structure for the introduction of any new management intervention in order to improve their fisheries.

Condition 4: Motivation and/or incentives

From the beginning, OHIFG leaders clearly explained to stakeholders the balance between benefits and costs of their involvement in managing the fisheries. Stakeholders are motivated through incentives such as education visits and allowances (chairperson's and secretariat's allowance) provided by Marine Scotland through Seafood Scotland. Stakeholders are also incentivised through profits gained for selling live Norway lobster at newly developed markets that the OHIFG board initiated for its stakeholders. Live markets create more value for less catch since selling Norway lobster alive gives higher value per kg caught than frozen or fresh lobster (approximately 3:1 £ per kg). Such issues, especially the live markets, provide incentives for stakeholder participation.

Condition 5: Congruence between rules and local conditions

Most measures currently used in OHIFG are adopted or copied from those that were already being practiced locally prior to IFG development, hence taking them on board is not a

problem for stakeholders' compliance, especially not for fishers. For instance, OHIFG has put in place: 1) Restrictions that creel and trawl vessels should not fish close to or in each other's areas, 2) Seasonal closures and zoning areas, 3) Restriction on landing V-notched lobsters, 4) Minimum landing size of lobsters in OHIFG such that the size is larger as compared to lobster size in all other fishing communities in Scotland, except in waters of Shetland Shellfish Management Organisation where the MLS was increased prior to the beginning of the Scottish IFG process, 5) Plans for an OHIFG lobster hatchery as has been done in Ireland and Orkney, and 6) Restrictions on bio-net use within the water habitat of V-notched lobsters (brood stock). The stakeholders' acceptance of and compliance to these measures suggest that in OHIFG there is congruence between rules and local conditions.

Condition 6: Rules made by those affected

As indicated in Condition 2 above, IFGs in Scotland were initiated by inshore fishers or stakeholders themselves. Thus, IFGs in Scotland were introduced through what is called 'local management initiative', where those affected make the rules (collective choice arrangements). As such, it cannot be wrong to assume that this has helped stakeholders to develop acceptance and positive attitudes towards their involvement in the decision-making process for the management of their fisheries. OHIFG stakeholders expressed exceptionally strong agreement (Msomphora, 2015) with the idea that they participated in decision-making processes during the development of their management plan.

Condition 7: Monitoring and evaluation assessment

Monitoring regulations based on a combination of 'folk' and scientific research knowledge are available for evaluation and assessment in OHIFG. In Scotland, data for stock assessment is usually provided by the International Council for the Exploration of the Sea (ICES). Therefore, stock assessment has always been based on ICES areas. However, after the development of IFGs in Scotland, there have been occasions when the OHIFG has managed

to conduct stock assessment based on their IFG area. In this case, OHIFG stakeholders themselves initiate and organise the research. By April 2014, OHIFG has managed to conduct stock assessment surveys on herring and mackerel fisheries based on their IFG area. Marine Scotland through the department of Marine Scotland scientists (MSS) however is responsible for the actual survey and also for the regional stock assessment. Nevertheless, ICES still assists by giving available advice to IFG for the development of new sustainable fisheries. The OHIFG has so far got such help from ICES on herring and mackerel fishery development projects. Due to their network and a wide coverage of stakeholders involved, OHIFG also gets help from their multiple partners. Currently, the Scottish Industry Science Partnership (SISP) scheme approved funding for a research project that has provided OHIFG with information on the *Nephrops* creel-fishery based on its IFG area. OHIFG also gets support from the government. For instance, Marine Scotland compliance (MS-Comp.) supports them by monitoring compliance to rules and regulations, especially regarding vessels with monitoring systems in place. In addition, MS-Comp. also records all fishing activities in the Electronic logbook (only for vessels $\geq 12\text{m}$) or on paper (for all vessels). Along with such a monitoring system, OHIFG leaders have also initiated 'self-policing' and a creel tagging system for easy identification so that fellow fishers who voluntarily agreed to settle disputes can confiscate gear of the offending vessels as opposed to more costly methods such as using patrol-ships and aircraft for surveillance. Tagging of fishing gear, such as creels, is a skill that OHIFG leaders have learnt from the fishing community in Northumberland, England, during their education visits.

To make monitoring and evaluation assessment easy and transparent, OHIFG documents all the details of the required activities as planned in their management plans. Based on what the majority of the interviewed stakeholder said, an independent body with no stakes in fisheries

is preferred to the stakeholders themselves conducting an audit and evaluation assessment of the implemented plans.

Condition 8: System of penalties

Since Scottish IFGs are not regulatory bodies, fisheries regulation and enforcement is done by Marine Scotland (MS), through the department of Marine Scotland compliance (MS-Comp.). As such, it is the MS-Comp., which has a penalty system in place for use in OHIFG. MS-Comp. prosecutes vessels violating the rules and can prosecute vessel owners in court if the severity of the crime warrants it. Therefore, the penalties system in place includes a mixture of light and severe penalties to deal with different levels of rule breaking, keeping individual circumstances in mind.

Condition 9: Nested enterprises

There is a network amongst the Scottish IFGs. OHIFG, as is with all IFGs in Scotland, network with organisations at the national and international level, e.g. with Scottish Inshore Fisheries Advisory Group (SIFAG), Marine Scotland (MS), Scottish Industry Science Partnership (SISP) scheme (replaced by the Fishing Industry Science Alliance (FISA) in 2012) and ICES. However, it should be noted that SIFAG has currently been superseded by Inshore Fisheries Management and Conservation Group (IFMAC). In addition, OHIFG networks with several other organisations, committees or agencies. Amongst the others are the English Sea Fisheries Committees, processing organisations (e.g. MacDuff Shellfish Company) and local education centres such as Lews Castle College.

Condition 10: Leadership skills and responsibility

The leadership of OHIFG appears to have the capacity and skills required to manage the fisheries. As indicated in Condition 3 above, the OHIFG chairperson is reported to have the required leadership skill to strategically influence policy-makers or government authorities to listen to their needs, and is also capable of avoiding bias in his judgements or decisions. The

OHIFG secretariat with long-time fishing and fisheries management experience is well respected by the whole Scottish fishing community. This enables the secretariat to have a good network nationally and internationally and even locally at the IFG level. Such leadership skills in combination with wide range involvement of stakeholder participation groups, and support from a nested arrangement of organisations at local and national levels, makes OHIFG capable of developing good activity-plans or projects and able to acquire required resources needed to incentivise stakeholders.

In addition, the fact that the OHIFG area is dominated by one FA, the Western Isles Fishermen's Association, where the manager (now for 31 years: April 2014) happens to be the OHIFG secretariat himself, also strongly influences the cohesion of the leadership within the area (Msomphora, 2015).

Condition 11: Communication system

OHIFG has a good communication system in the form of a body that is composed of the IFG's ExCom arm and AC arm (cf. Condition 3). Currently these two arms are fused together, but with each maintaining its original responsibilities (OHIFG, 2010; Scottish Inshore Fisheries Groups, 2009). The ExCom represents fishers' interests while the AC represents all other stakeholders' interests in dealing with the ExCom. The two arms have a joint meeting so that information is shared prior to decisions being made. Through this collectively convened body, the OHIFG is able to get e.g. the government authorities and non-governmental organisations represented to assist in dealing with different management issues such as monitoring and evaluation, resolving conflicting interests and reinforcement of local decisions. Each organisation represented, therefore, will bring a specific role with them to the group meeting. For instance:

Marine Scotland through Marine Scotland compliance has the remit to enforce rules made by local stakeholders, while Marine Scotland scientists have the remit to

conduct surveys and stock assessments. The Scottish Environment Protection Agency, which is an environmental protection agency, brings an environmental remit with them to the group. Similarly, Scottish Natural Heritage, the natural heritage group, will bring the heritage remit to the group, i.e. it will promote the broader biodiversity agenda as opposed to just fisheries management. Scottish Natural Heritage has the overall responsibility of monitoring the reserves and giving advice on special ways to conserve marine protected areas including wildlife such as deer, geese etc. The processing industry has the role of supporting IFG by giving a processor's point of view with regard to marine protected areas and how they could affect fishery business and socio-economic concerns in the area (Interview, IFG respondents).

The OHIFG communication system, which involves diverse knowledge from a wider range of stakeholders, helps in creating acceptable resolutions to conflicting interests and values. More so, it facilitates the process of coming up with a resolution that will accept differences and conflicting interests and find means to cope with them while collectively managing their fisheries. Due to good communication and networks, OHIFG through Marine Scotland, as part of the west of Scotland emergency measures, has managed to prevent unwanted vessels, such as East Coast vessels, from fishing within their West Coast waters (OHIFG leadership, personal communication, April 2014). A partner organisation, Comhairle Nan Eilean Siar, has installed fuel tanks at fishing ports in the OHIFG area in order to improve fuel efficiency; however, fuel prices remain a challenge. (D. MacInness, personal communication, April 2014). High fuel prices have apparently been discussed with one of the partner organisations, i.e. Lews Castle College, who have investigated the potential for alternative sources of cheaper fuel that would be prioritised for use on inshore vessels. They were able to do so through funding they received from the European Fisheries Fund (EFF). As such, despite conflicts amongst stakeholders, OHIFG continues to be resourceful and engaged in the management of their fisheries.

Moreover, communication within OHIFG is not that difficult because of its manageable geographical size (cf. Condition 1). Meetings are easy to conduct and turn-up is usually high. The manageable coverage area enables local and cost effective meetings. For instance, it is only short distances to the meetings (no need for travel allowance).

Condition 12: Conflict resolution

The analysis highlights that there are problems of conflicting interest between stakeholders. For instance, there is an on-going problem of gear conflicts between the creel and trawler boats fishers. Resolving gear conflict is difficult and complicated at the moment (April 2014) as no formal concrete conflict resolution system is in place:

Gear conflict is an issue which IFGs need to really look at. Gear conflicts are frequent and can go on for ages. (Interview, IFG fishers' representative)

However, a voluntary group of people, appointed by OHIFG leaders has been put in place to help settle disputes amongst fishers, but without legal backing. In addition, as pointed out above, OHIFG has demarcated certain areas that are meant only for trawl fishing and other areas only for creel fishing (static gear). Despite such efforts, conflicts persist. Therefore, the government has officially appointed a task force, i.e. 'Justice Committee', which is chaired by an independent person. The committee's role is to look into putting in place a system, i.e. stream lining legislation that will help give evidence required for prosecution. Following the report from the task force on gear conflict which reported to Ministers in July 2014, the consultation on measures to tackle gear conflict in Scottish inshore waters was launched on 14 November 2014 and ran for 12 weeks, closing to responses on 6 February 2015. Marine Scotland has in December 2015 produced a report for promoting best practice in gear conflicts (Marine Scotland, 2015).

Condition 13: Right to manage

The analysis also shows that there is a problem with regard to the distribution of power between local stakeholders and government authorities since the formal role of OHIFG up to now, as in the case of other Scottish IFGs, has been to act as an 'advisory' body to the managing authorities (government officials) and not as a 'management' body (Msomphora, 2015). The IFGs are not legislative schemes, and may never be, because under Scottish law there is only partial delegation of such rights, with no sign of this changing (cf. interview quotations below). Consequently, the OHIFG MP measures that require additional legislation to be introduced are a challenge in terms of enforcing compliance.

Since the government retains legislative powers, OHIFG leaders have put forward to the government for their recommendation measures they believe require legislation. This remains a challenge for MP implantation and tension between government authorities and local stakeholders within the IFG persists:

The IFGs do not have the teeth, as you may say, to legislate. They advise the government and in particular government officials. Thus, we can say they have the rights to organise the MP of the fishery but we have no management right. The Scottish government does not seem to be willing to give such power to the IFGs. (Interview, IFG leaders)

The IFGs in Scotland will only be advisers until in the future, unless the legislation are additional process given to them. While in England, the Sea Fisheries Committees have the rights. They have the legislative powers. They can do the legislation themselves (Interview, IFG stakeholder)

They will never give us power because of budgetary requirements. It will cost them a lot of money to do that. It also means that they have given the administrative powers to the IFGs and they have to pay for the administration. (Interview, IFG stakeholder)

No, I do not think the Scottish government would give such powers to the IFGs at all. No. The government is scared, you know, because it is too radical to give such powers (Interview, IFG stakeholder)

The IFGs are acting as the advisory bodies to the government and they have got no power for legislation. The stakeholders have been involved in drawing up plans that have been approved as a way forward. But the details of the implementation stage are more complex because some of the measures in the MP can be enacted much quicker than others, you see. And some of them can be enacted within the existing registration. And some of them that have to be enacted will require that additional registration be introduced. So what we are looking at in the initial stage is moving forward on measures that can be introduced through existing legislation. Otherwise it is a complex job to implement without the legislative power, especially in terms of enforcement of rules. In England they have their own fishery protection vessels, they have their own enforcement officers. They are all employed by the local bodies. Now, that is where they win (Interview, IFG leaders)

Nevertheless, to cope with challenges the OHIFG have started implementing certain measures in their MP that can be enacted within the existing legislations (Msomphora, 2015), and the government allows that (government supports them). Although stakeholders are not given legislative rights to manage their fisheries, the OHIFG through ExCom still is able to participate in the management of the fisheries. The Scottish government has devolved the responsibility of developing and implementing management plans to stakeholders, and fishers (ExCom), in particular, are held responsible to run the show. Such a situation implies that the Scottish government at least minimally recognises the management rights to the stakeholders; although this may not guarantee that stakeholders will be able to maintain enduring institutions, especially when it comes to enforcement of the non-legislated new rules of the fishery (Ostrom, 1990; Interview, IFG leaders).

It should however be pointed out that despite the fact that ‘conflict resolution’ and ‘right to manage’ are reported by stakeholders themselves to be missing, the OHIFG in actuality have informally put in place mechanisms to help settle disputes between stakeholders, and have come up with a method that enables them to start implementing their management plans.

Therefore, I am willing to speculate the two reported as lacking conditions only as *de facto*³ essential conditions.

5. Discussion

Participation of a wider spectrum of stakeholders can function well under what the research literature identifies as ideal circumstances, such as those listed in Table 1. A fishery, such as in the OHIFG, with a significant presence of gear conflicts and tension between local stakeholders and government authorities over who should have management powers, and more so, no formal conflict resolution in place; but yet the success in taking on the stakeholder responsibility of developing the management plan (MP), could perhaps be seen as a 'participation paradox'⁴. Since existing research indicates that conflict over exhaustible fisheries resources is inevitable in a management system with a wide range of stakeholder participation as in the OHIFG case (Cox et al., 2010; Jentoft & McCay, 1995; Ostrom, 1990; Pinkerton, 1989), the existence of conflict resolution mechanisms is necessary for collective action. It is reported that in situations where conditions, like 'conflict resolution' and 'the right to manage', are not met and cannot be developed or encouraged, a real constraint is imposed on local management of fisheries (Azeiteiro et al., 2012; Hoggarth et al., 1999; Ostrom, 1990). According to Cox et al. (2010), when conflict resolution mechanisms are not available, successful stakeholder participation in fisheries management appears more difficult.

However, as portrayed below, it might not be necessarily true that all the fisheries conditions in Table 1 are strictly essential for stakeholder participation (Ostrom, 1990). Under partially devolved fisheries management rights to stakeholders with a wide range of interests that may result in competing goals and positions, stakeholder participation could nonetheless work

³ Existing in actuality, especially when contrary to or not established by law (American Heritage[®], 2011)

⁴ The term 'participation paradox' is borrowed from de Vivero et al. (2008). They use this terminology to mean that governance, as an interaction between State, civil society and the market, paradoxically might not strengthen the most traditional of the interest groups (fisher community) due to the fact that they lose their prominence and importance, fading into the wide spectrum of interests with which the fisher community is competing to make its voice heard in decision-making bodies and in the media. De Vivero et al. (2008) perspective differs from mine in that herein the term is used to point out the discrepancy between expectations and reality.

depending on the degree of delegation or what exactly has been delegated, but more so whom such delegation empowers. As Dahl (2015); de Vivero et al. (2008) point out, the higher the number of stakeholders involved, the smaller the role each can play. This may result in individual stakeholders losing their prominence and importance in the wider spectrum of interests (de Vivero et al., 2008; Gray & Hatchard, 2003). Therefore in fisheries management, it is important that fishers, as the most traditional of the interest groups, are the ones empowered if true stakeholder participation is to be realised (de Vivero et al., 2008).

To manage tension in a wide spectrum of stakeholder representation, good leadership is critical in unifying stakeholders so that they are able to reach agreement and speak with one voice (Jentoft & McCay, 1995; Msomphora, 2015). Good leadership skills enable stakeholders to realise what co-managing the fisheries essentially entails and what they may realistically expect from it. According to Chuenpagdee and Jentoft (2007), prominent candidates who might have such leadership skills include educated local fishers or community members, researchers and conservation groups. But equally important to keep in mind is that secured funding and continued support by the government could be detrimental to the continuity of stakeholder participation. In this regard, it is essential that the government and its political 'power structure' must establish commensurate rights and authorities and devolve some of their own powers to the managing stakeholders (Pomeroy, 1995).

It is also essential that in a fishery, problems should be well-identified, namely gear conflicts between fishers and use of illegal fishing methods, but more importantly how such challenges or conflicts can be resolved (Chuenpagdee & Jentoft, 2007) both formally and informally. Lacking a combination of informal and formal conflict resolution mechanisms is considered a major factor in inhibiting stakeholder participation in decision-making processes of fisheries management (Stepanova, 2015). However, to crown it all, an understanding of principles underpinning stakeholder participation through a social-ecological based approach,

willingness to devolve power, and the existence of adequate capacity and resources to participate as effective partners in an interactive governance are necessary to reinforce the basic requirements for active stakeholder participation in decision-making processes of fisheries management. The absence of such conditions may result in a lack of legitimate governance, on-going conflicts and absence of interest in the process (Chuenpagdee & Jentoft, 2007).

The results of the present study suggest the presence of constructive stakeholder participation despite the lack of formal 'conflict resolution' and 'the right to manage'. In spite of the fact that the government of Scotland has not yet and does not seem to be willing to give management powers to IFGs, stakeholders' satisfaction with their participation in decision-making processes of developing a MP is high (Interview, IFG stakeholders including their secretariat and chairperson, 15 April 2014). This is interesting because such findings mean that the conditions listed in Table 1 are not all equally important. Stakeholder participation can still work well without officially having in place formal 'conflict resolution' and 'the management right'; implying that at least these two conditions are not strictly necessary, and would suffice to exist as informal conditions (Ostrom, 1990). These findings are contradictory to Stepanova's (2015), since herein, conflicts over natural resource use do not require a combination of both formal and informal resolution methods. In OHIFG, stakeholders do not have formal conflict resolution methods, but they are constructively involved in the decision-making process of their fisheries management, such that their participation has not come to a halt because of the lack of formal conflict resolution. In fact, it may be unreasonable to require that local institutions must have the rights to manage, since such rights in the modern setting 'by definition' are invested in coastal states (UNCLOS, 1982). Whether certain conditions, among OHIFG existing conditions, are more important than others in accounting

for the success of stakeholder participation cannot be concluded herein. It will need further research before a strong assessment of what is important can be made.

However, it can be concluded that the existence of formal 'conflict resolutions' and the right to manage' are not that important as long as the fishery in question has a system or mechanism in place that can help to ease the situations between conflicting stakeholders such that at least they can come to a compromise that will satisfy them all. Moreover, the results herein also suggest that conflicts can have a positive function for successful stakeholder participation as it brings stakeholders to work together, and clarify their interests and values. As Coser (1956) argues, such results suggest that conflicts between stakeholders can be seen as an interactive process in which conflicts are 'a form of socialisation'. A collaborative participatory management system does not have to be free of conflicts to succeed because no group can be entirely harmonious, especially in a commons (Coser, 1956).

As noticed above, Smith and Lewis (2011) and Galuppo et al. (2014) also argue that the paradox of stakeholder participation often stems from conflicting interests within a wide spectrum of involved stakeholders. According to Simmel (1950), conflicts sets boundaries between groups by strengthening group consciousness and awareness of separateness and identity vis-a-vis other groups. In a fishery, such as in the OHIFG, where stakeholders' social structures witness a substantial amount of mobility, mutual hostility among stakeholder groups is accompanied by small stakeholders (e.g. creel-boat owners or local stakeholders) being attracted to the ways of bigger stakeholders (e.g. trawl-boat owners or government authorities). Such structures in fisheries tend to provide many occasions for conflicts, e.g. gear conflicts and conflicts over the power to manage. This is illustrated by the on-going gear conflicts between the static- (creel) boat owners and the trawl-boat owners, and through the conflicts of management power between local stakeholders and government authorities. As highlighted by high levels of satisfaction amongst OHIFG's stakeholders in terms of their

participation in fisheries management, Coser (1956) notes that there are some positive functions served by the expression of hostility in conflict. Hostility disposition could be thought as a 'safety-valve' of conflict (Coser, 1956). For instance, in OHIFG, conflict between stakeholders serves as an outlet for hostilities so that the relationships with each other is maintained. In fact, it has prevented group dissolution between local stakeholders and government authorities and between fishers groups, thereby enhancing collaborative stakeholder participation. As such, conflict 'clears the air' and allows for free behavioural expression of hostile dispositions (Coser, 1956; Simmel, 1950).

While conflict changes the terms of a relationship, hostility does not need to have such effects. Thus, despite the expressed hostility that causes tension between IFG stakeholder groups, their conflicting interest (as indicated in the previous paragraph) enhances the relationship between them. For example, while creel and trawl gear fishers in the case of the OHIFG have on-going gear conflicts, and while the tension between Scottish IFG local stakeholders and government authorities over the power to manage the fishery continues to be a challenge, such conflicts improve the terms of relationship between them (Coser, 1956). The results, herein, therefore suggest that a system that requires a wide stakeholder participatory process, such as in fisheries management, does not necessarily have to be absent of conflicts to succeed in terms of collaborative management; implying that conflict is the nature of the game and that the system must be capable of handling it.

With a co-responsibility approach to managing the fisheries, the chance of successful stakeholder participation is more likely to improve if a workable low-cost conflict resolution mechanism(s) exist(s) (Cox et al., 2010; Imperial & Yandle, 2005; Ostrom, 1990). This is, however, not necessarily a crucial fisheries condition for successful stakeholder participation as long as they have a mechanism in place for negotiating solutions. Informal mechanisms are essential in the absence of a formal mechanism.

Unlike 'realistic conflict'⁵, there are no alternative solutions for 'unrealistic conflict'⁶ (Coser, 1956) other than conflicting partners having to agree on certain terms for their co-existence. In fisheries, gear conflict can be identified as a realistic conflict because it arises from frustration of specific demands and it will cease if fishers can find alternative ways to compromise with or acquire their demands. For instance, gear conflicts in OHIFG are handled by implementing certain fisheries operational measures like closed areas or seasons for a particular type of gear or fishery. Stakeholders' acceptance of such measures seems to help in easing the gear conflict while enhancing fishers' collaborative management roles. To enhance stakeholders' acceptance, OHIFG leaders made the stakeholders clearly understand the balance between: 1) profits of the new measures vs. the costs of enforcement of the rules for compliance and 2) the benefits of self-policing and/or simply complying with the rules vis-a-vis the enforcement costs pertaining to the rules for compliance that the government has to provide money for.

In addition, OHIFG stakeholders seem to have effectively handled the challenge imposed due to lack of 'the rights to manage' their own fishery. For instance, stakeholders in some specific areas of OHIFG have voluntarily formed a group to help in resolving gear conflicts, based on 'humanitarian grounds' and with no legislative support. Since the new legislation for implementation of MP measures requires a long administrative time (Interview, IFG chair, 15 April 2014), OHIFG tackled such a challenge by starting implementing measures that can be enacted within the existing legislation. Amongst others, OHIFG has conducted a common cockle (*Cerastoderma edule*) fishery survey as noted in their MP and is now talking with

⁵ Realistic conflicts are "social conflicts that arise from frustrations of specific demands within a relationship and from estimates of gains of the participants, and that are directed at the presumed frustrating object. Insofar as they are means toward specific results, they can be replaced by alternative modes of interaction with the contending party if such alternatives seem to be more adequate for realizing the end in view" (Coser, 1956, p. 156).

⁶ Unrealistic conflicts "are not occasioned by the rival ends of the antagonists, but by the need for tension release of one or both of them. In this case the conflict is not oriented toward the attainment of specific results. Insofar as unrealistic conflict is an end in itself, insofar as it affords only tension release, the chosen antagonist can be substituted for by any other "suitable" target" (Coser, 1956, p. 156).

Marine Scotland (MS) to determine the way forward for other measures that require additional legislation to be introduced.

Furthermore, the 'Vandalism Act' is currently the legislation used to sort out gear conflict, but using that legislation is not easy in terms of prosecution as it is not easy to produce concrete evidence on incidents happening at sea. Therefore, the Scottish government has appointed a task force, i.e. the 'Justice Committee', to explore opportunities for setting up a system that will streamline sea activities such as deliberate acts of gear vandalism and theft. There is hope that streamlining such sea activities will help give the evidence required for prosecution. It will also act as a deterrent against gear conflict and deal with incidents when they do occur, and hence promoting best practice in gear conflicts.

Where stakeholder issues diverge, OHIFG leaders have arrived at a common understanding that enables the process to move forward towards a collectively produced outcome. To achieve this, OHIFG has put in place a communication system for deliberations and negotiations where different stakeholder views on the management plan of their fisheries are discussed. By drawing attention to their collaborating organisations (nested enterprises), the OHIFG chairperson calls extraordinary meetings for exchange of knowledge that will help to identify the kind of resource and effort required for facilitating the production of collective stakeholder knowledge for decision-making. Experts are invited to such meetings so as to integrate knowledge for decision-making. Stakeholder knowledge of the OHIFG is complemented through consultations with scientists (e.g. ICES, Marine Scotland science and Scottish Industry Science Partnership which since 2012 has been replaced by Fishing Industry Science Alliance), governmental and non-governmental organisations like Marine Scotland, MacDuff Shellfish Company, Scottish Natural Heritage, Scottish Environment Protection Agency, Lews Castle College, European Fisheries Fund, Comhairle Nan Eilean Siar and Highland and Island Enterprise, as well as with other Scottish IFGs and IFG equivalent

bodies in England. Through these interactions, stakeholders in the OHIFG body, which is composed of the IFG's ExCom and AC arms, acquires interactional expertise about issues that are typically situated within scientific and bureaucratic knowledge.

Stakeholders gain knowledge from scientists that are relevant for the development and implementation of their MP, such as stock assessment data required for allocation and improvement of the management measures. From other collaborating organisations, OHIFG learns about how to develop new market opportunities and gain support for funding their project plans. It also gets support for the reinforcement of its local decisions (from e.g. Marine Scotland compliance) and gains support on how to promote the natural heritage of Scotland in terms of broader biodiversity issues as opposed to only with regard to the management of fisheries resources. At the same time, information on how such things can affect the fishery business and the socio-economic situation is also obtained. In addition the OHIFG, through collaboration with government, learns about shifting management priorities related to high-level objectives set at the national level by the Scottish Inshore Fisheries Advisory Group. Working in a collaborative network also makes stakeholders aware of the need to have a strategy for dealing with uncertainties (Stange et al., 2014).

Thus, as these examples highlight the absence of formal 'conflict resolution' and 'the right to manage' are not major obstacles as long as there are informal conflict resolution mechanisms in place and partial devolution of management rights to the most traditional of the interest groups takes place. Conflicts simply work as a presupposition of a relationship and social interaction between the different stakeholders groups involved. The implication is that conflicts are often motivated by realistic reasons for engaging in them and that they involve significant emotional energy. As Coser (1956) points out, the closer the relationship between people, the greater the effective investment and the more potential for intense conflicts. In a management system with a broad spectrum of stakeholder involvement as in OHIFG,

conflicts serve as an interaction arena for creation and modification of measures as well as for the development of new institutional networks to facilitate information exchange and transparency in the management process while enhancing compliance as well. This, despite the conflicting interests among stakeholders and lack of formal concrete arrangements of 'conflict resolutions' and 'right to manage', strengthens groups unity. In spite of tensions between stakeholders the collaborative spirit remains high. By collaborating, stakeholders are able to employ methods that can provide a means of producing support and of sharing responsibilities for hard decisions needed for managing the fisheries. All of this can signal the success of stakeholder participation.

However, as Ostrom (1990, p. 101) argues, it is hard to conclude that formal 'conflict resolution' and 'right to manage' are not necessary at all for effective stakeholder participation. Depending on e.g. the level of social cohesion and internal conflict, formal recognition of 'conflict resolution' and 'the right to manage' may be necessary to support the enforcement of negotiated solutions, especially in areas with low social cohesion and high levels of internal conflict. In areas with strong social cohesion and low levels of internal conflicts, informal 'conflict resolution' and 'the right to manage' may suffice (Jentoft & Chuenpagdee, 2015). Perhaps if the OHIFG stakeholders wish to enhance the level of delegation for fisheries management, they could make use of a Regulating Order (RO) as done in Shetland. In Shetland, RO provides stakeholders the right to manage and regulate the fisheries for shellfish within the six mile limit, through the issuing of licences and the implementation of regulations and other measures (Shetland Shellfish Regulating Order, 2015; Scottish Government Regulating Orders made under the 1967 Act).

6. Conclusion

In this paper, stakeholder participation in OHIFG is explored by identifying the relevant enabling conditions and how important such conditions are for making stakeholder participation work within a system where the coastal state government controls management rights. The results suggest that except for two conditions, namely 'conflict resolution' and 'right to manage', all the key conditions for successful stakeholder participation as indicated in Table 1 formally exist in the OHIFG. Although essential, even if those two conditions do not exist formally in the case of OHIFG, they still work informally in a way that is sufficient to solve conflicts that occur among members.

In contrast to what could be expected in instances of high stakeholder participation (Msomphora, 2015), this case study demonstrates that tensions exist between the local stakeholder and the government authority due to conflicting interests with regard to whom should have the management power. Azeiteiro et al. (2012) and Ostrom (1990) indicate that lack of stakeholders' right to manage the fisheries leads to limited stakeholder acceptance for participation in fisheries management, which in turn leads to management objectives not being met. However, this is not the case in the OHIFG; in spite of tensions between the stakeholders, the collaborative spirit remains high.

Despite significant stakeholder conflicts and lack of a formal conflict resolution arrangement in OHIFG, stakeholders have successfully developed the MP and made significant progress in implementing MP measures that can be enacted within the existing legislative framework. Such findings, in agreement with the theory of social conflicts (Cosser, 1956; Simmel, 1950), suggest that conflicts do not have to be absent. Conflicting interests from a broad array of stakeholders' representatives may facilitate interaction that in fact strengthens the relationship between stakeholders. Therefore, despite the absence of a formal management right/power

and conflict resolution arrangements, stakeholder participation in the current case study is still strong.

It is therefore concluded that stakeholder participation in fisheries management can function well under less than what the research literature identifies as ideal conditions for success. This is realistic when good leadership skills and commitment to ensure stakeholder satisfaction with their participation in fisheries management exists. More so, organisational bodies responsible for the management of the system (e.g. an IFG) must at least have the remit to evaluate and monitor progress including that of fisheries status, and should be able to reinforce local decisions with support from government authorities.

The findings are in agreement with Mikalsen and Jentoft (2008); Stepanova (2015), namely that in a fishery with adequate management capacity (cf. Section 4.1), conflicting interests from a wider group of stakeholders may even contribute to the success of increasing stakeholder participation in the decision-making processes of fisheries management. With a wider spectrum of stakeholder involvement, a common approach to shared problems provides a good basis for creating measures or solutions to conflicting interests. As such, it is concluded that 'formal conflict resolution' and 'legislative power to manage' are not strict necessities for making stakeholder participation work in fisheries management. Stakeholder participation can work as long as certain informal and compensatory mechanisms exist. This suggests that in fisheries management one should not wait until all the conditions are optimal at step zero before introducing stakeholder participation. Rather some necessary conditions can be introduced at some later stage.

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APPENDIX

Guideline questions for data collection

1. Briefly, describe your professional background? What are you doing now and how you got involved in the management of the inshore fisheries?
2. Describe the annual setting of the fisheries management in your group area?
 - a. Describe the management processes (whole process of management and regulations)?
 - b. Why do you do something like this?
 - c. How is it related to other management measures?
3. Why and how are stakeholders' participation adopted? Or why and how was your participation adopted?
4. What is the interest of the Stakeholders to participate in making the MP and/or fisheries management as a whole?
 - a. Who are the stakeholders involved?
 - b. Exactly how does the stakeholder involvement make a difference?
 - c. Why would you (e.g. fishers or government) want to spend time in this?
5. Please expand on the management roles of the individual stakeholders in the process of making the MP, and how this has developed over time?
 - a. Who makes what kind of decision?
 - b. Is ICES involved?
6. What is done to make sure that all are represented in the management group (collective choice mechanism and equality)?
7. What happens if the stakeholders have conflicting interest or have conflicts?
 - a. What happens if involved organisations e.g. the fisherman associations, environmental groups, or other individuals (e.g. individual fishers) refuse to be part of the management plan processes?
8. What management rights (stakeholders' management rights) are put in place to ensure success of the fishery management?
 - a. Are the rules and regulations clearly understood by the stakeholders?
9. What do you think are the weaknesses (challenges) and strengths (successes) in this process of managing your fisheries? Or how likely is this approach to succeed?
 - a. How could it be improved?
 - b. What would be the ideal role for each representative member or the organisation you are representing, in the improvement process?
10. How would you describe the status (stage) of your MP now?
 - a. Do you think you are able to implement it? Why?

Note that the above questions are answered using data from a combination of sources including:

1. Stakeholder interviews, observations, and image taking
2. Literature archives or records, reports and published documents

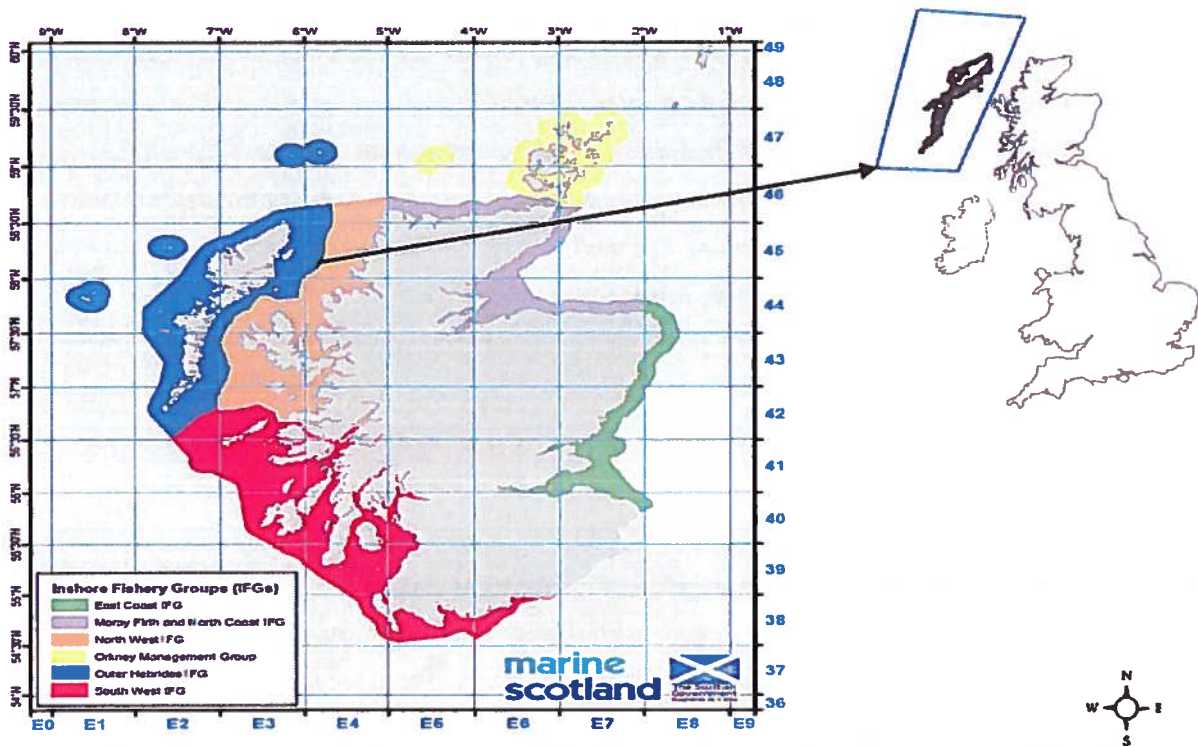


Figure 1: Map showing the site of study, i.e. the location and coverage of the OHIFG area (Copyright 2014 MS).
Note: At the time of data collection, there were six IFG areas as portrayed in Fig. 1, but since April 2016, there are no longer six IFGs. The East Coast IFG and the Moray Firth and North Coast IFG have become one IFG called North & East Coast Regional IFG, while the North and the South West IFGs have now merged to one IFG called West Coast Regional IFG. Besides, the name Outer Hebrides IFG has changed to Outer Hebrides Regional IFG.

Table 1: Conditions deemed essential for successful stakeholder's participation in fisheries management.

Necessary condition	Description
Clearly defined boundaries*	Clear delineation of individual rights to withdraw resources, as well as clear boundaries of the fishery itself, with manageable size.
Group cohesion	Stakeholders should have a common approach to shared problems. Stakeholders that share understanding of key objective, have the chance of successfully facing the challenges of managing a fishery
Management organisation	It is helpful if the fisheries have an organisation with management responsibility in order to provide a structure for the introduction of any new management intervention
Motivation and or incentives	From the beginning, it should be clear to stakeholders that benefits exceed the cost of their involvement. Without appropriate incentives, or motives, the stakeholders will not want to be actively involved in management-functions.
Congruence between rules and local conditions*	Rules that restrict time, place, technology, and/or quantities of harvest must be related to local conditions and to provision rules.
Participation by those affected *	Existing rules should be made by, or with the cooperation of, the individuals affected by them (Collective choice arrangements)
Monitoring and evaluation assessment*	Monitors need to actively audit the status and activities of the fishery, including any rule-breakers.
System of penalties*	A penalties system set up for rule breakers should be in place. The system should include a mixture of light and severe penalties to deal with different levels of rule breaking and individual circumstances.
Nested enterprises*	Management should be supported by a nested arrangement of organisations at local and national level.
Leadership responsibility	There should be a core group with capacity for taking leadership responsibility for the management process within the fisheries.
Communication system	A joint body between stakeholders and government authorities should be established to allow communication of information and knowledge between them. Membership should include representatives from both stakeholder groups and should have a remit to monitor progress, resolve conflict and reinforce local decisions.
Conflict resolution*	Stakeholders and their officials should have fast and low-cost local arenas to resolve conflicts among stakeholders or between stakeholders and officials. Mechanisms should rely on both formal (e.g. law court) and informal (e.g. committee meeting) methods.
Legal right to organise or manage*	Stakeholders should have the right to devise their own fishery-organisation without being challenged by external governmental-authorities. This implies that the fishery must have external recognition of their right to manage.

Source: Adapted from Hoggarth et al. (1999)

*One of the 8 conditions in Ostrom's theory (1990) for successful, long-lived self-governance.

