

Towards a model of port-based resilience against fisher labour exploitation

Kieran Phelan^{a,*}, Alison Gardner^a, Elizabeth R. Selig^b, Jessica L. Decker Sparks^a

^a University of Nottingham Rights Lab, Highfield House, University Park, Nottingham NG7 2RD, United Kingdom

^b Stanford Center for Ocean Solutions, Stanford University, Stanford, CA, USA

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ABSTRACT

Fishers have pronounced vulnerabilities to labour exploitation and modern slavery. Regulatory efforts to mitigate fisher labour exploitation through domestic modern slavery legislation, and through the ratification and implementation of The International Labour Organization's Work in Fishing Convention (C188) have had varying success. This heterogeneity is mainly because the implementation of C188 rests upon ratified states enforcing aligned domestic legislation, and rests also on the supposition that each port state has the resources and capacity to implement these standards within its port networks through enforcement levers and agencies often with varying operational reach and with overlapping jurisdictions. In practice, C188 applies messily and variably in ports. Increasingly ports are cast as fulcrums for addressing labour abuses in fishing, yet policies have struggled to connect together the needs of individual fishers with relevant port structures and services in a meaningful and actionable way. This paper advances a conceptual model for conducting a port-by-port analysis of port communities by appraising site-based assets and dynamics. With this understanding, a port-based and place-specific account of fisher vulnerability and resilience can be constructed. This analysis also considers how regulatory coverage and enforcement can be supplemented by the operationalisation of a multi-factored, multi-scalar consideration of risk determinants. Together this dynamic asset and liability-based model of port resilience can better reflect the variability of port enforcement, capacity, and infrastructure to more effectively assess fisher labour exploitation and identify pathways for improved enforcement.

1. The vulnerabilities of fisher work

The hard-to-reach geography of fisher labour makes fishers' acutely vulnerable to labour exploitation. This is defined here as a broad continuum where decent work is the desired standard, and violations of labour laws and regulations of varying severities are set against this on a spectrum which includes wage disparities, excessive working hours, forced labour, servitude and human trafficking, and modern slavery [72]. Fishers' mobile geography of labour also makes monitoring and regulatory enforcement of base-level standards more challenging [22, 71]. Fishers work to variable intensities during fishing trips and do so in changeable conditions shaped by their vessel and the conditions at sea [41]. Vessels not only physically disintegrate the labour market into crews on fleets at sea but set them into competition with each other within fisheries for limited or regulated catches [16]. A widespread industry dependence upon migrant labour also adds labour market complexity, which practically differentiates crews by migrant work status, shaping their working and shore-access rights and remuneration.

Lastly, fishers are poorly unionised. This could be attributed to a number of reasons. As seen in seafaring more broadly, fishing crews are often multilingual, recruited from different countries, and at different rates of pay. This can serve as a disciplinary mechanism, fragmenting and making more challenging the potential of worker and vessel-based solidarity [15,59,61]. In some jurisdictions, fishers also lack a history of unionisation, are excluded from larger maritime unions [80] and face legal obstacles collectively organising as mobile, migrant and precarious workers. These contextual factors compound fisher vulnerabilities to labour abuse at sea.

Fishers also catch a mobile resource and yield unpredictable catch. This results in a structural precarity which is enforced further by catch-linked remunerations models which, like other time-based wages, encourage self-exploitation [52]. However, whilst widely practiced, crew share remuneration models are not universal. They sit alongside other forms of labour contracting such as through agencies, which intermediate and coordinate the employment of a chiefly international crew to vessels in search of labour. Crew of the same vessel thus, may be

* Correspondence to: University of Nottingham Rights Lab, Highfield House, University Park, NG7 2RD, United Kingdom.

E-mail address: kieran.phelan1@nottingham.ac.uk (K. Phelan).

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on different contracts, come from different countries, and have different terms of pay. These differentials are exploited to the advantage of the vessel owner, and often to the disadvantage of their migrant crew [46]. To this end, fishing mirrors the strategic valorisation of low-waged migrant labourers found across many industries, where the harnessable vulnerabilities of migrant labourers' function as a subsidy to profitability through their lower wages, and their perceived reliability, productivity and dependability [70]. The agency-mediated growth in the dependence of migrant fishing labour speaks to the growing commodification, marketisation and globalised integration of maritime labour [54,56,60,82].

Migrant labourers have the most acute vulnerabilities to exploitation and forced labour [19,42], and within fishing, these are exacerbated further by their working mobility, which has a material effect on their working rights. They not only work on moving vessels under different flag states, in fisheries in national and international waters, and in ports of different port states, but they also navigate a complex legislative landscape of immigration and visa laws which effect their working rights and movement throughout these different jurisdictions. This regulatory complexity can result in fishers being relatively fixed and bound to highly mobile vessels, and can result in the most vulnerable fishers, migrant crew, being the most static, because their shore-leave and rights to seek alternative work are often restricted, by their visa, their vessel owner or a port authority [46,80]. These factors reinforce the vessel as an object which moves through space without losing its property as a site of production, and which reproduces an exploitable immobility of fisher labour [14,15]. Perhaps more pertinently for labour abuse, fisher immobility ashore minimises the likely contact between exploited fishers, law enforcement agencies and civil society organisations, which increases the power of the perpetrators of labour abuse by increasing the likelihood their violations go unnoticed [6].

2. ILO188 enforcement: a rationale for port-based analysis

ILO's Work in Fishing Convention (C188) represents one of the most comprehensive attempts to establish fishing industry labour norms. Whereas international and state labour laws can make exception and exclude fishing from protections and legislation, C188 represents a multilateral attempt to address the exceptionalised status of fishing, to enforce base-level standards for fishers' living and working conditions. C188 has a wide scope which spans fishers' remuneration processes and contractual conditions, as well as their standards of accommodation, sanitation and facilities onboard their vessels at sea. Its implementation relies on port states ratifying the convention, aligning their domestic legislation to it, and enforcing its standards through its policy and enforcement levers, through its state agencies. Yet, given the hard-to-reach geography of much of fishing vessel work, combined with the capacity and expertise of the implementing agency, the practical enforcement of these standards is difficult. Whilst much attention has been afforded to fisher labour and labour exploitation at sea and at harvest [27,30] much less attention has been paid to when fishers land catch and where their vessels 'plug in' to infrastructure in port to service their vessels, change crew, and realise their profit. In the context of fisher labour exploitation, a fishing vessel's port visit makes its labourers visible in their mobile workplaces and constructs a time-limited window of opportunity for regulatory standard checking and practical agency intervention [80]. Thinking through ILO C188 enforcement as an illustrative example underscores how important port spaces are as sites in which enforcement regimes can find, intervene and address fisher labour abuse, both specifically pertaining to ILO C188, and more generally relating to fisher labour standard enforcement [44].

Yet, the practicalities of enforcement through the levers of a port-state are difficult; this can be attributed chiefly to geography, and to the way port states attribute statutory responsibility of enforcement. Unlike seafaring such as shipping, which has greater standardisation, greater concentration within fewer larger ports, and greater

consolidation of ownership amongst a few large international corporations [79], fishing is more diverse. Whilst in some geographies, diverse fleets are dispersed across many ports and vessel ownership decentralised amongst multiple owners, in others they are highly concentrated. Similarly, some port states may have only a few fishing ports which are geographically concentrated, whilst others have many widely distributed across its territory. The disparate geography of port distribution, compounded by port specialisation and the mobility of vessels between them, make enforcement and compliance challenging, and enforcement idiosyncratic port-to-port. In the context of C188, port state enforcement is also further complicated by the way port states distribute enforcement responsibilities across multiple agencies, and give different agencies responsibilities over specific components of C188's ratified standards. Many standards often crosscut agencies, and see responsibilities for vessel registration, safety, fishing licences, catch documents, and working conditions, spread across half a dozen port state authorities [45]. This lack of clear oversight undermines the ease of C188's practical enforcement.

The effective enforcement of C188 rests on two operating assumptions. The first is that its inspecting-competent agencies have the knowledge to inspect vessels to the correct standards. Given C188 standardises baselevel working conditions, the Convention helps to streamline the knowledge of enforcement agencies. The second is that enforcement agencies have operational capacity in each port to coordinate effective multi-agency enforcement. Given ports and the agencies within them vary greatly, this is not always the case. To this end, C188's enforcement is often undermined by practical challenges of agency capacity and reach into ports, which constructs an environment where fishers are ostensibly well-regulated by standards which in practice are often poorly enforced.

3. Towards a port-based resilience model

There is growing acknowledgement that policy enforcement which aims to mitigate labour abuse and exploitation often plays out poorly on the ground. Multi-agency implementation is often hampered by a lack of leadership and co-ordination, by inconsistent engagement, poor accountability, overlapping agency jurisdiction, and insufficient funding to improve outcomes [31]. The enforcement of C188 port-to-port emblematises this, and exposes need to adopt a more holistic approach beyond legislation to fight fisher labour abuse. Given many responses to labour exploitation can be found in local statutory organisations and voluntary services, place-attuned and community-focussed frameworks are finding new currency for their ability to connect and place multiple and diverse national and local actors and practices within a coherent and lived community context [33]. Inspired by ecological models of resilience, advocates of place-based community resilience approaches adopt a multi-level analysis of a place's socio-cultural determinants of vulnerability, and cultivate a framework of topic areas for locally grounded review and measurement to assess existing gaps and assets, and measure progress towards specific locally rooted goals. In a context where ports are fulcrums for the enforcement of policies which poorly connect to individual fishers and ports, place and community-based approaches provide potential to connect the multiple national and local initiatives, agencies, actors, and practices, to their place-specific geography of enforcement within the port and its community. In placing importance on identifying the multiple socio-cultural and economic determinants of the port community which contribute to fisher vulnerability, the specific application of this approach to ILO C188 enforcement could help to meaningfully develop an understanding of a port's specific vulnerabilities, and provide the basis upon which targeted interventions could enhance place-specific resilience.

The application of ecosystem-based models of resilience to the social world has drawn critique for being conservative [48], deterministic, complicit in the responsabilization of rolling back the state [2,33], poor

at grappling with power asymmetries [8], and for having questionable applicability to social worlds with agency, interaction, and power [1,12,18,23]. However, it is analytically useful in giving us a language to centre the importance of contextual specificity in appraisals of place-based risk and vulnerabilities. It can be helpful in recognising the dynamism of human structures and processes and enable us to move further into understanding inter-relationality, patterns, practices and processes which are not directly observable in discrete data analyses alone [29]. Whilst we acknowledge the problematic limitations resilience presents as a general framework and political project [3,18,49], we seek to mobilise a specific and narrowly defined conceptualisation of it to add complexity to understandings of fisher vulnerabilities. In which, we disassociate from problematic implicit suggestions that resilience can and should be gained by fishers in the fight against labour abuse. Instead, we position resilience-enquiry as a helpful method to dynamically think through how worker vulnerabilities present themselves in specific contexts [31,32,58]. This moves away from individualised discourses of social resilience defined as a capacity to withstand adaptive adversity, threats, and shocks, and moves towards an understanding of it as a socialised, dynamic, multi-scalar and worked framework deployed as part of an ongoing assessment of labour market improvement.

This method has already been used in other studies of exploitation and has demonstrated itself an effective tool to identify assets and limitations of structural place-based resilience [31,32,57,58]. These are then stress tested, verified, or refuted by the experiences and insights of the people who navigate them, so to inform the creation of systemic theories of change which can bolster assets of decent working conditions and enhance the efficacy of enforcement efforts. In this paper we adapt the framework specifically to labour exploitation in fishing, enabling not only the identification of placed constitutions of vulnerability to labour exploitation, but also the dynamic verification of identified assets of best-case scenarios, to understand if they can actually tangibly deliver decent working conditions.

In devising and operationalising a locally rooted resilience model for studying fisher labour abuse, one underscores three helpful operating premises. The first, is that whilst fisher vulnerabilities have structural tendencies which manifest for all fishers, vulnerability is constituted differently in every port, justifying a place-based analysis. The second, is that in order to analyse resilience against fisher labour abuse, one must determine power and agency. This demands we ask questions about who is vulnerable, how, where and why, and who has power and agency. Lastly, in exploring vulnerabilities, the framework facilitates the critique of existing actors, institutions and ways of doing. In a port context, this includes business models, policies, actors and institutions, as well as policy enforcement, infrastructure and regulation [33]. In holding true to all these tenets, investigating community resilience can help deliver equitable transformation and improvement.

Drawing on a range of literature exploring exploitation vulnerabilities, Gardner, Northall and Brewster (2021) provide an illustrative model of community resilience (Fig. 1). The model identifies how the legal, regulatory, social, cultural, and personal factors of community, interrelate affecting a place's anti-slavery resilience. This model incorporates an element of progression which outlines specific stages of anti-slavery work, including prevention, discovery and recovery, and serves as an indicative model of determinants, rather than a definitive list, which are starting points for place-based inquiry, where community-based variation may occur. Perhaps most importantly, their model highlights four key dimensions of the determinants of community resilience; structural, legal and regulatory, cultural and locality-based, and personal.

Reflecting calls to develop a specific port-by-port analysis of fisher vulnerabilities to labour abuse [80], this research adapts this community resilience framework, and tailors it for the more specific application to port communities in the analysis of fisher vulnerability (Fig. 2). In a similar fashion, our framework can be used to generate a port-by-port



Fig. 1. Social Determinants of Resilience to Contemporary Slavery. Source: Gardner, Northall and Brewster (2021).

analysis, by constructing a place-based community profile of a port community, to better understand place-specific port-based fisher vulnerability and resilience.

3.1. Structural factors

Many of the structural factors of a port community which make fishers resilient or vulnerable to labour exploitation are the same determinants of labour exploitation noted for any other community. Given this, the framework includes many of the same structural factors as the more general community resilience model in Fig. 1 [33]. These include the importance of access to workers' rights, healthcare rights, welfare, human rights, and education, all key social determinants which enhance resilience against labour exploitation [55]. The framework also affirms the need for strong institutions with trusted anti-corruption measures, access to routes to justice, law enforcement, and the rule of law, all of which are key principles which enhance place-based resilience against labour exploitation [20]. Whilst they are generally important determinants for studying labour exploitation, they are also particularly important for understanding the distinct vulnerability of fishers to labour abuse. Whilst a port state may have identifiably strong institutions, fishers may not be familiar with them, or may be prevented from accessing them due to immigration controls. As such, the framework has great utility in its comparative reflection, which can hold structural concerns in tension with a port's local dynamics, and fisher experience, to better determine the real-world extent to which structural determinants help or hinder the working lives of fishers.

The framework then establishes a need to conduct a more specific appraisal of the structural configuration of the community's fishing industry, both nationally and locally, to sketch out its basic key structural dynamics of competition, within which both the port and its visiting vessels operate. This establishes a basic port profile in which structural relationships and processes can be mapped, key competitive logics can be identified, and potential industrial lynchpins and tendencies relating to fisher vulnerability can be found [24].

3.2. Legal and regulatory environment

The framework also highlights the importance of regulatory and legal factors in shaping community resilience. Given the regulatory complexity of fisher labour protection, regulatory determinants are particularly acute when examining fisher resilience in port communities. Many legal standards exempt fisher labour adding further complexity. To this end, the framework encourages specific reflection on different areas of the law, as well as standards and voluntary codes to discern how they interact with and shape fisher vulnerability. These considerations can include if a port state has ratified international conventions and standards, if it has national labour legislation covering minimum wages and health and safety protections for fishers [45,84], if

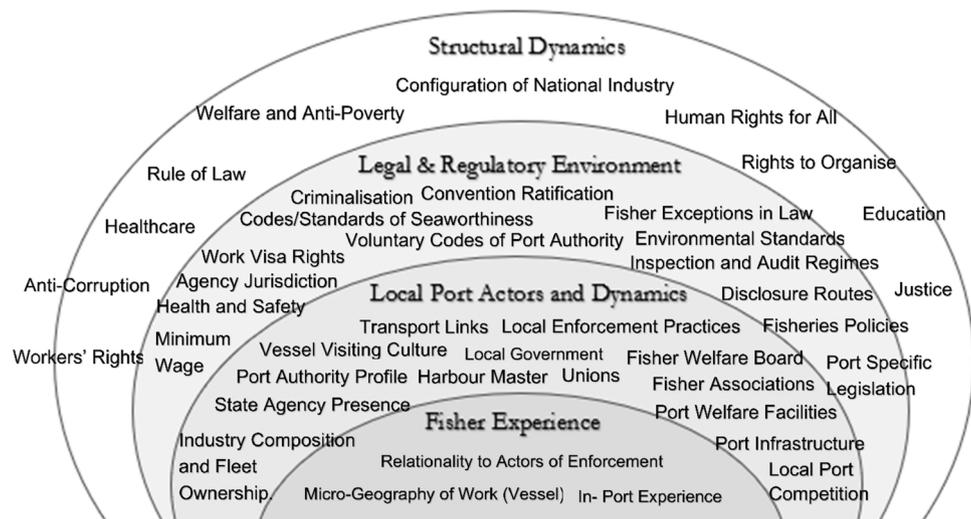


Fig. 2. Fisher Labour Abuse Port-Based Resilience Framework. This model identifies and structures reflection on the multi-factored interactivity of the structural, legal and regulatory, and local determinants of a port. These all shape a fisher's resilience or vulnerability to labour abuse, and effect policy enforcement variability port-to-port.

Source: Authors, adapted from Gardner et al., 2020.

there are voluntary codes which port actors enforce [25], if there is port-specific legislation governing port operations and shore-side labour practices, if the port-state has environmental or fisheries legislation, as well as if the port-state sanctions or criminalises labour abuse.

Given the fishing industry's functional dependence on migrant labour, particular attention, over and above general regulatory dynamics, must be afforded to the experience of migrant fishers, and the legal environment they navigate visiting port states. This is particularly important given their acute vulnerabilities to exploitation [43]. The framework encourages specific appraisals of the port-state's visa, immigration and migration rules. This helps to understand some of the regulatory restrictions placed upon fishers which might undermine the detection of labour exploitation. These include restrictions to their shore leave, to the geography of their legal fishing rights, and to their working rights in port when accessing support or intervention [85].

Perhaps most importantly, a reflection on the legal and regulatory environment must also discern the distribution of the enforcement responsibilities for these laws, regulations and standards across the state's enforcement agencies, and the dynamics of the multiple policy levers and inspection regimes at play. This task has resonance for understanding the implementation of a port state's obligations to C188, where state agency responsibility is usually shared across multiple agencies, and enforced using the agency levers and inspection regimes of their respective jurisdictions. The framework is most productive if equal consideration is paid to the theoretical policy commitments and laws of the port state, as well as the dynamics of their practiced enforcement 'on the ground'. In doing, one can more effectively discern port-by-port capacity, and reflect on how the multitude of national agencies can and should collaborate to uphold an effective regulatory environment; a feature which has significant potential applicability for policy makers and agency stakeholders.

3.3. Local port actors and dynamics

Lastly, the framework provokes reflection on the local stakeholders and dynamics of a port community which significantly vary port-to-port. Here we use an expanded definition of port community that includes the community of work and governance associated with fishing practices within the geographical limits of a port, and the port's broader placed, peopled, and practiced community dynamics situated in and a part of a living community which transcends the port's physical boundaries. This

can include an analysis of the social, cultural and economic factors of a port community shaping its governance, operating culture and practices. These all inform a port's resilience or vulnerability to labour abuse. The appraisal of local port actors and dynamics could include, but is not limited to, the industrial composition of the port's fishing and marine industries, local port competition, fleet ownership, the port's labour market, its static infrastructure, welfare facilities, as well as its welfare boards, vessel visiting and inspection culture, and its civil society groups and fisher unions. Analysis could also reflect upon local enforcement practices, state agency presence within the port, as well as the history of the port authority working with state agencies and local government partners to enhance its enforcement practices. Particular attention should be afforded to the political-economic operating model of the port, which can identify locally specific structural dynamics of fisher vulnerability and resilience. Contextualising fishing within a port's broader model of profit also helps discern the likely prioritisation of fishers within a port's portfolio of competing operations, and can indicate likely vulnerabilities where fishing and fisher services are peripheralized.

3.4. Fisher experience

From mobilising this framework to create a locally specific profile of the structural, legal, regulatory, socio-cultural, and political-economic determinants of fisher vulnerability to labour exploitation, the next task is to centralise their voices to discover how they practically navigate these determinants in the real world. In centralising, and necessitating engagement with fisher experience, the model advanced in this paper demands an 'on the ground' appraisal of port practices and brings them into dynamic conversation with the structural and legal protections they so often vary from. In so doing, the framework adds to the Social Determinants of Resilience to Contemporary Slavery model (Fig. 1), to provide opportunity to go beyond many of the assumptions made of it, and to include better reflection on fisher experiences as members of marginalised and micro-communities, both in ports and aboard vessels, which may have specific assets and vulnerabilities in port.

Whilst there is real insight to be gained from this grounded imperative, the model does present real methodological challenges relating to fisher access to hear fisher experience. Port environments vary considerably in their fisher support infrastructure, and often lack coordinating spaces or facilitating actors of access. Port authorities also can prevent

access to fishers, providing physical barriers to access and enclosing them within publicly inaccessible areas of the port. Despite these challenges, gaining access to and centralising fisher voice provides opportunity to reveal previously undiscovered determinants of vulnerability and can highlight underappreciated community actors and hidden knowledge and capacity which could be better supported on the ground to enhance the port's resilience.

In this regard, research using interviews, surveys, participatory mapping, and ethnographic based approaches in a port community of its fishers and stakeholders beholds great potential in developing a critical assessment of port-based practices and services. These could be used to inform targeted policy intervention and goal setting to support greater port-based resilience against labour exploitation, and better place-based enforcement of C188. The proposed framework of port-based resilience (Fig. 2) is by no means exhaustive, rather indicative, and is an attempt to reflect upon the many factors which pertain to fisher labour abuse and ports, to structure thinking around their dynamism and how they might interrelate and shape port resilience and vulnerability. The utility of this framework is used through an illustrative example, using the port of Shoreham in the United Kingdom.

4. An illustrative example: the Port of Shoreham, UK

The Port of Shoreham (hereon in Shoreham) is one 300 ports and harbours in England and Wales, and one of 120 commercial ports in the UK [62]. Shoreham was selected for the application of this framework for several reasons. Not only is it a large commercial port where fishing forms part of the port's income, but it is a significant scallop and oyster landing port for catch caught in the Channel. UK scallop fishing has a pronounced risk to labour abuse [17], and Shoreham has emerged both a site of its related labour abuse, and a site of intervention [40]. Thus, the application of the Fisher Labour Abuse Port-Based Resilience Framework was a timely intervention, with acute urgency and applicability, to assess its existing vulnerabilities.

4.1. National structural dynamics

Situated on the south coast of the United Kingdom, Shoreham exists within a port state with a comparatively low prevalence of modern slavery and has ostensibly, a legislatively comprehensive labour regulatory environment. The UK also benefits from a well-established legal and judicial system, and from trusted national institutions with purported low levels of corruption [78]. It also has nationally legislated, a socialised healthcare service free at the point of use, a socialised welfare and education system, codified human rights for all, and rights for workers to organise. These all enhance community resilience to modern slavery in the UK and mitigate the likelihood of labour exploitation. However, these can also have significant access barriers, particularly for migrant fishers, who for example, are charged 150% of the cost of secondary health treatment unless they meet specific exemption requirements [39].

4.2. National legislative and regulatory environment

The UK has a range of legislative and regulatory assets which enhances resilience against labour exploitation. The Modern Slavery Act (2015) (herein MSA), for example, criminalises modern slavery and mandates supply chain disclosure practices pertaining to slavery and human trafficking. UK port environments are increasingly viewed sites of acute vulnerability in this regard, and also to clandestine migration to the UK [7]. Although migration through these routes remains low [50, 81], in responding to their perceived threats, southern coastal ports and their associated waters are increasingly securitised [2,77]. Reflecting these risks, seaports feature heavily within MSA's strategic policing and are prominent in agency awareness campaigns and operations [36,37].

Maritime enforcement of the MSA, including policing and inspection

powers, is principally the jurisdiction of the National Crime Agency. The MSA criminalises perpetrators of modern slavery, but in doing enshrines into law a high legal threshold for evidence, which must be satisfied in order for enforcement agencies to act under MSA powers. The over-emphasis of this illegality threshold by enforcement agencies has the potential for other less severe exploitative practices to be overlooked, be left unacted upon, or deemed decent work by default. This is compounded by the narrow remit of the NCA pertaining to the MSA. The NCA's operationalised definitional narrowness, as defined by the MSA and its high evidential threshold, matches poorly with the realities of fisher labour exploitation, which often does not meet, or transcends this jurisdictional remit and tight legislative definition. Often fisher labour exploitation has dynamics which fall under multiple jurisdictions of a port state's enforcement regime, involving agencies who often work in isolation from each other.

This functional disjointedness presents real potential weaknesses in the efficacy of the enforcement regime, which has been recognised, not least by the UK's director of labour market enforcement who has repeatedly advocated for a single joint enforcement body to deal with labour abuses [76]. Although the UK Government has committed to this, it requires the drafting of primary legislation which is not yet time-tabled. In the UK, for example, wage theft and tax crime would be under the remit of Her Majesty's Revenue and Customs (HMRC), workplace safety shoreside in port would be the Health and Safety Executive (HSE), fisher visas and permissions to work would be UK Visas and Immigration, customs and immigration enforcement, security and vessel searching would be the Border Force, local police services might investigate initial allegations, and a port's local authority might orchestrate port health authorities, environmental health, and trading standards enforcement pertaining to landing catch. Thus, to enforce the MSA in fishing, and the fight against labour exploitation more broadly, it relies on effective multi-agency working to navigate the mismatches between the multiple policing and enforcement remits of a port state's inspection and enforcement regime, and the realities of fisher labour exploitation.

The Health and Safety at Work Act (1974) and the National Minimum Wage Act (1998) are other legislative resilience assets. The former establishes employer duties to their employee's safety at work, and the latter establishes a state minimum wage. However, these poorly apply to fishing. Minimum wage protections cover all employed staff, but are minimally applicable for UK fishers. This is due to most being self-employed, paid through crew-share remuneration models. This self-employed status can result in the practical exemption of certain rights, such as paid leave, sick pay, and minimum wage, as these, as self-employed workers, are self-covered. Where fishers are employees, the National Minimum Wage (Offshore Employment) (Amendment) Order (2020) applies, but only to those working in UK territorial waters within 12 nautical miles. The lacking universal applicability of a UK minimum wage law to fishing, presents fishers with unique vulnerabilities around wage protection. Similarly, the Health and Safety at Work Act (1974) provides a patchwork of cover for fishers. Whilst it covers all workplaces including port vessel loading and unloading, it does not include vessels. Instead, vessels comply with Merchant Fishing (Working in Fishing) and Merchant Shipping and Fishing Vessels (Health and Safety at Work) Regulations (1997). Although similar, these do not provide identical protections. Vessels must also comply with the Maritime and Coastguard Agencies (MCA) Code of Practice, a mandated standard for vessel health and safety and seaworthiness. This transfers vessel health and safety enforcement responsibilities from the HSE, to the MCA, who conduct pre-scheduled vessel inspections every 1–5 years, depending on the type and risk profile of the vessel [51].

The UK has also ratified ILO's Working in Fishing Convention (C188). The MCA is the statutory enforcement agency, with boarding rights to inspect and enforce it. The MCA's enforcement strategy relies upon the threat of civil sanctions, which include rights to give prohibition and improvement notices, detentions and cautions, all rights they

already use in the enforcement of their Code of Practice. HMRC also have functional responsibilities, limited only to enforcing the financial commitments defined by C188, which include investigating allegations of fisher wage theft or tax impropriety. Therefore, like the MSA, C188's enforcement similarly relies upon effective multi-agency working, chiefly between the MCA and the HMRC, but also with the ports, and other agencies with operational reach within them.

Both the MCA's emphasis on vessel health and safety, and the pre-scheduled nature of its inspection regime, presents key fisher vulnerabilities in the UK's C188 enforcement regime. Whilst the MCA has a strong track history for vessel integrity and seaworthiness inspections, the more specialised task of fisher labour inspection for C188 enforcement is a new remit. Their new labour inspection responsibility is in addition to their existing safety inspection duties and is in contrast to other jurisdictions which give specifically dedicated labour agencies rights to inspect vessels. This presents potential weaknesses in the enforcement regime. There is limited evidence to qualify the MCA's capacity and efficacy conducting this new labour standard responsibility and may result in inspectors less confidently enforcing crew standards compared to vessel standards, because they have greater and more longstanding expertise and knowledge of them. The largely pre-scheduled nature of MCA inspections also lowers the discovery likelihood of fisher labour abuse because they lack proactivity or surprise. This leaves the primary burden on workers to come forward, which is something undermined by coercion, and by language barriers between migrant crew and inspectors. The growing death rates amongst fishers at sea challenges the efficacy of MCA inspections and has caused them to increase their unannounced visits [53], however, in review of the two main regulatory frameworks used to enforce fisher labour standards in the UK (the MSA and C188), these legislations present as ostensible resilience assets, but in their enforcement reveal challenging vulnerabilities to fishers.

There are two further regulatory dynamics which acutely shape fisher vulnerabilities to labour exploitation in the UK. The first is the visa environment of non-EEA migrant fishers which exacerbates their vulnerabilities. The UK has two main visas available to non-EEA migrant fishers. The first is the Skilled Worker Visa, a scheme for fishers with more than three years' experience, an employer offering a salary of £ 25,600, and a work offer on a vessel of 9 m or more [38]. Due to these multiple conditions, few fishers use this entry route. Instead, they use the more widely documented Transit Visa as a means to join vessels to take up confirmed work offers. This visa must be linked to a specified ship which must operate outside of UK territorial waters. The visa provides a legitimate means for fishers to transit through the port state, to join their vessel and move out of UK waters, and are given a time limited window of 7 days to do this [46]. It is this time-limited condition which exacerbates the already acute risks migrant fishers have to exploitation. Once their visa elapses, port entry may be denied, confining fishers to their vessel and place of exploitation. Whilst in these instances, normal practice does not prevent the disembarkation of non-EEA migrant fishers for shore leave, their right to re-enter the port state is entirely discretionary. In worst cases, this can result in Border Force denying shore entry, limiting exploited crew in their ability to seek port-based support [28].

The second relates to the (de)regulation of UK ports. UK ports are largely privatised, a product of the gradual transfer of port assets to the private sector since the 1980 s. With them, the state also conferred three responsibilities over them, as landlord, operator and regulator, to private, trust and municipal port authorities [4,10]. This harmonised port regulatory environments to those in Europe [34] and allowed the private sector to determine port investment [5]. Private ports are responsible to shareholders, Trusts, to a range of 'stakeholders', and Municipal ports, to their local authority's communities. All three models are open to market forces, are run independently, and are stand-alone financing enterprises free from systemic Government support [11,26]. This presents an operating contradiction which makes fishers acutely more vulnerable.

Whilst in landing catch, vessels are available for inspection in the port, the port authority also garners income servicing their landing. Thus, to enforce fisher labour standards, authorities must reconcile the need to coordinate inspection regimes within their port, with their commercial needs attracting their custom, to remain commercially viable.

4.3. Local port actors and dynamics

Shoreham is one of the largest cargo-handling trust ports on the South Coast, one of the busiest coastlines in the UK [21]. It neighbours Portsmouth and Southampton to the west, and Dover to the east, three of the busiest military, shipping, and cross-channel ro-ro movement ports in the UK. Accordingly, the South Coast's regional command for Border Force policing splits activities, between Dover, treated as a standalone jurisdiction (South East & Europe), and a considerably larger jurisdiction between Newhaven and Falmouth (The South). Larger ports such as Dover have permanent agency presence, such as customs and immigration facilities, whilst smaller ports such as Shoreham are served by multi-functional mobile teams, who are deployed ad-hoc according to intelligence and need. Between 2017 and 18, of a regional budget of £ 78.9 million, 'The South' was allocated just £ 45.6 million [9]. Despite this, West Sussex's Police Command increasingly highlight the coastline as its geographical vulnerability [35,73,74], and have launched local policing agendas which suggest pro-active cross-agency working and interventionist approaches [13,75,83]. Thus, the proximity of Shoreham to larger ports is seen to shape its broader policing resource and its comparative lower likelihood of routine inspection within it to neighbouring ports, but its proactive, although impermanent, policing serves as a mitigating resilience asset.

Shoreham has also a strong reputation as a construction port, renowned for timber, aggregate, bulk and cereal handling [63,68,69]. In 2020, it handled 1.99 million tonnes of cargo, 328,000 tonnes of which was timber [63]. The MCA carry expanded inspections of likely visiting vessels Shoreham, particularly of oil, gas, chemicals tankers, as well as bulk carriers. This presents higher likelihood that if an effective inspection regime takes place in the port, it may prioritise these vessels over fishing vessels. This mixed-use context also positions fishing marginally within the port's commercial income strategy and speaks to a broader emergent trend of port-based fisher marginalisation [80]. This is particularly problematic given its specialism of scallop and shellfish landing, a specialism which continues to grow. In 2018 Shoreham landed 18% of the caught scallops in the UK, after steadily growing its landings by 37% over the preceding three years. Between 2016 and 2019, Shoreham's scallop catch increased by 21%, partly attributed to the port's desirable proximity to their fishing areas, as well as Shoreham's easy dock-side transportation [64]. Scallop specialisation brings distinct vulnerabilities to the port, highlighted by research implicating UK scallop fishing with forced and bonded labour disproportionately affecting migrant crew [17,47]. Viewed concurrently, the risks of Shoreham's scallop specialisation, together with the port's mix-use portfolio of fleet servicing which may peripheralize their vessel's inspection, compounds already acute fisher labour vulnerabilities.

Lastly, Shoreham Port Authority's governance provides interesting considerations of resilience. It routes its governance principles around eight key values of corporate social responsibility [65,67], which include accountability, working together, and being good and fair. Ostensibly these emblemise a responsible business culture which is an asset of community resilience. However, these largely lack any clear definition or benchmarked structures to monitor their delivery. In their absence, are external accreditation schemes, such as ECO Port, and port-based employment initiatives, such as for Equality, Diversity, and Inclusion [66]. The former relates only to static infrastructure, and the later only to direct employees, both excluding vessel and their fishers. Whilst there is an active ship visiting culture served by three port chaplains of two organisations, the port's promotion of this is similarly unclear. In this absence, Shoreham Port Authority actively promotes

their own agency service, which arranges crew provisions, hotel accommodation and immigration support, as well as healthcare support to crew, as part of a commodified and chargeable crew welfare service [69]. In doing, it promotes a clear access route to support for visiting fishers, but places price-based barriers to its access, as this is a billable service. To this end, Shoreham demonstrates an interesting politics in the narrativization and framing of its support services, by its authority. Ostensibly, Shoreham presents itself part of a responsible business community, with valuable welfare assets and ethics, but in practice it provides assets which are highly gatekept by port actors, and are commodified, limiting their accessibility.

4.4. Fisher experience

Using Fig. 2 as a conceptual tool to conduct a port-based asset assessment of Shoreham's resilience, a place-rooted and specific profile of the port has been established. This has identified some of the multi-scalar processes, and place-specific actors, tendencies, and dynamics, which appear to converge on and emerge within Shoreham port, in a best-case scenario likely set in motion should fish workers come to shore. This model allows for the reflection on their dynamism, their tensions and contradictions, and their assets and liabilities in the context of fisher labour exploitation vulnerability. From this constructed theoretical best-case scenario, the conceptual framework now implores us to see how this connects or disconnects from the lived experiences of fishers utilising the port. This imperative requires us to centralise in-port fisher experience, affirming the value of empirical, primary, and qualitative research to explore this, so to corroborate from their perspective if their lived relationality and experience of the port compliments or contradicts the identified assets perceived to mitigate their vulnerability or encourage decent work. This has the power to reveal the port's hidden assets and vulnerabilities and can challenge many of the assumptions made of it.

Whilst the limitation of this illustrative example is that empirical data was not collected, the case does surface fertile indicative lines of enquiry, which an empirical project centring fishers could explore. This could include interviewing fishers about their experience and use of Shoreham's port environments, surveying fishers of their work experiences and their knowledge of access routes to welfare support available at Shoreham, or ethnographically observing in port interaction (or lack of them) at Shoreham, with fishers, inspectors, and fisher support organisations. The difficulty of this task, particularly pertaining to access, is significant, and likely requires researchers to navigate great methodological complexity, but in centralising fisher voice, the framework encourages a comparative approach which can draw distinction between a port's theoretical, and practiced vulnerabilities, which can and do often deviate from each other. In the context of port improvement and policy implementation, centring fisher voice has the power to ascertain the impact and success of specific intervention, which targets specific assets of resilience. Perhaps most importantly, however, the framework entrenches respect for the political agency of fishers as sources of insight and knowledge of their own work practices and their vulnerabilities, which any policy effort aimed at helping them should reflect.

5. Conclusion

Fishers have distinct vulnerabilities to labour exploitation and modern slavery. Their geography of labour presents acute challenges to the implementation of labour standards, and to legislative compliance. Fishing stakeholders increasingly see ports as fulcrums for addressing fisher labour abuse, but to date have struggled to connect individual fishers, to port structures in a meaningful, actionable way. Responding to these complexities, this paper develops a framework for port-by-port place-based analysis of fisher vulnerability and resilience, and proposes a framework to identify and appraise port-based assets and liabilities in

the fight against fisher labour abuse.

The strength of this framework is in its understanding that fisher labour exploitation as something complex and multi-dynamic, with intervention diversely implemented port-to-port. This necessitates a conceptual framework which remains place-rooted, and can meaningfully connect individuals, with the port community, and the port's structural resilience, to elucidate their intersectional, interrelated and idiosyncratic dynamics. The framework presents three categorisations of key determinants of port-based resilience and vulnerability: Structural, Legal and Regulatory, and Local Port Actors and Dynamics. The framework advanced in this paper provides illustrative determinants of these, to help better understand the multiple determinants of fisher labour abuse, and the variability of enforcement and of port resilience assets and liabilities which vary port-to-port. In doing the paper helps to construct an operationalizable model capable of grappling with this multiplicity, and which appreciates the inter-related dynamism of risk determinants, often caught up in tensions and contradictions of practice which compound fisher vulnerabilities.

Yet, this strength is also its limitation. In the approach's emphasis on the need to carefully appraise the complex inter-relationality of labour abuse risk determinants in their specific port locality, the model relies on interpreting factors not easily quantified, or instantly comparable between port settings. Thus, further work will be needed to create diagnostic tools to enhance and refine the operationalizability of this framework port to port. In addition, in order for the framework to be most useful in promoting action, key aspects of multi-agency leadership and partnership engagement will need to be place, alongside funding, accountability and resources to make enforcement practicable. Some structural and legal challenges will also not be resolvable at local level. However, the value of the framework remains in its ability to serve as a tool for evidence gathering to inform future policy change and improvement, for which there is currently an empirical dearth.

Perhaps most importantly, the framework's greatest contribution is in its centralisation of fisher voice. This marks an important innovation to previous models of social determinants of community resilience against labour exploitation (see Fig. 1). This not only strengthens and validates the diagnostic capacity of the framework, but reaffirms the importance of fisher experiences and voice within it, as within any place-based port analyses of their exploitation. In centralising the marginalised voices of fishers, and harnessing their too often ignored expertise, the framework provides opportunity for port stakeholders to operationalise a real commitment to fisher inclusion, recognising their crucial role in enforcement improvement, by bettering any resolutions to fisher labour exploitation, with actionable, practical and fisher-centred insight from those who live it.

CRediT authorship contribution statement

K.P., A.G. and J.L.D.S. conceptualised and designed the study, Methodology. K.P., A.G. and J.L.D.S. acquired the data. K.P., A.G., J.L.D.S. and E.R.S. analysed and interpreted the data. All authors drafted the manuscript and revised it critically for important intellectual content. All authors reviewed and approved the manuscript.

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Competing Interests

All authors declare no competing interests.

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