

The future of small-scale fishing

Can poor coastal communities achieve sustainable livelihoods and sustainable fisheries?

Discussion paper

Paper for the Rockefeller Foundation from the CARE-WWF Alliance (2014).
Grant Number: 2013 OCE 202

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Executive Summary

Achieving sustainable livelihoods *and* sustainable fisheries is a dynamical and complex process. The challenges posed by the growing frequency, duration and depth of risks, stressors and shocks--of both acute and slow-onset changes--requires something new of fisheries policy and management. A diagnostic and measurement framework to guide investment in small-scale fisheries in poor coastal communities needs to systematically integrate the concepts of vulnerability, well-being and resilience. Appreciating resilience to be the likelihood of a person, household and community having the capacities – absorptive, adaptive and transformative - over time to attain and maintain well-being is critical. This can encourage fisheries specialists and development programmers to apply vulnerability analysis to propose, develop and validate a mix of interventions in each context designed explicitly to build and strengthen those capacities. This analysis must integrate a multi-dimensional understanding of well-being; one that explicitly addresses the non-material as well as the material aspects of well-being.



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Introduction

Major drivers of change and vulnerability are impacting oceans and marine life; they are also playing out perceptibly in the lives of coastal communities dependent on fisheries around the globe. Alongside the dedicated work of poverty and fisheries researchers--describing, analyzing and arguing for the role of small-scale and artisanal fishers in sustainable fisheries--there are fishers' movements and livelihoods activists focused on the growing urgency for sustainable and just solutions to the challenges of fisheries and coasts.

The CARE-WWF Alliance strives to act on the dynamic challenges of achieving 'just' and 'sustainable' food systems, working towards the co-equal goals of promoting 'healthy ecosystems' and 'healthy livelihoods', and placing 'empowered citizens' at the heart of our agenda. Drawing on the Alliance's signature work in northern Mozambique, we set out to broaden our understanding of the dynamics that shape livelihoods, vulnerability and resilience of coastal communities dependent on small-scale fishing.

This paper draws on a synthesis review of peer-reviewed papers concerned with small-scale fishers, coastal livelihoods and developing country fisheries, and a rapid scoping of policy positions and activist groups in small-scale fisheries and coastal livelihoods. The purpose is to stimulate discussion about appropriate, i.e., just and sustainable, ways to invest in small-scale marine fisheries and coastal livelihoods programs and policies. In practical terms, the CARE-WWF Alliance is trying to build relevant answers to questions around the 'what', 'why' and 'how' to make effective investments in poor coastal livelihoods. Our concern is that such investments should be driven by the likelihood that they will both contribute to the well-being of poor and vulnerable men and women dependent on small-scale fishing whilst simultaneously restoring, or at least maintaining, fisheries and the ecosystems coastal communities rely upon for their livelihoods and well-being.

The concepts of *well-being*, *vulnerability* and *resilience* lie increasingly at the nexus of poverty, development and environment discourses. They are not new concepts, and they have acquired diverse meanings and applications in policy and practice over time. We find that these concepts are being re-examined and have potential to be applied in promising new ways in small-scale fisheries policy, management, research and investment strategies.

Coastal communities, sustainable livelihoods & small-scale fisheries

Whilst there is great diversity among small-scale fisheries around the world, reviews of poverty and fisheries research makes clear that small-scale fishers are not necessarily the poorest of the poor. On the contrary, small-scale fisheries can generate significant profits and make important contributions to national poverty alleviation¹.

Imagining the future of small-scale fisheries

For the CARE-WWF Alliance the emphasis on *empowered citizens* represents a commitment to ensuring that the poorest and most vulnerable people, especially women, make informed decisions about natural resources management and engage with and hold public and private actors accountable for the decisions and policies that affect their livelihoods.

Three questions posed to a 2010 workshop of the International Collective in Support of Fish-workers (ICSF), remind us that empowered citizens, and dignified lives and sustainable livelihoods for current and future generations must lie at the heart of a sustainable fisheries agenda.

- Can we dream of a fishery that will sustain lives and livelihoods in communities? If yes, what will this look like and what will be the components of such a fishery?
- Are there any ethical norms that may be required to guide such a process and what will be the role of different players in helping create such a fishery?
- What lead should we take in making such a reality possible, and how do we (women, fish-worker representatives, researchers, etc.) strategize the process at different levels?

Workshop on 'Recasting the Net: Defining a gender agenda for sustaining life and livelihoods in fishing communities', International Collective in Support of Fish-workers (ICSF), July 2010 <http://wifworkshop.icsf.net/images/stories/wif-workshop/pdf/proceedings/chapter896.pdf>

There are numerous pathways through which coastal communities and national development benefit from small-scale fisheries; from being fishers and fish-workers, providing inputs and services to fishing, and consuming fish through to the multiplier effects of income and employment, as well as tax and export revenues. There is strong and compelling evidence for supporting small-scale fisheries as a core economic and development sector. However, ‘many of these fisheries are degraded and not yielding their maximum socioeconomic returns’ⁱⁱ.

The extent to which coastal communities are ‘dependent’ on small-scale fisheries for their livelihoods and well-being varies geographically. It is clear that many small-scale fisheries are multi-use and multi-user environments. In some cases, for example, fishers also farm, and might prefer to exit fisheries entirely. However, this should not be assumed. Increased efficiency of fishing effort and increased returns, combined with non-fishing livelihoods, may not in fact reduce pressure on fisheries. In contexts of generalized vulnerability, fisheries often provide a safety-net function in times of household stressⁱⁱⁱ. Other industries that utilize coastal ecosystems can provide livelihoods opportunities for coastal communities, but also pose challenges for sustainable fisheries. Activities such as tourism, exploitation of natural resources like sand, oil and gas, and coastal agriculture all have implications for resource use, pollution and environmental disturbance.

These types of dynamics—between motivations for fishing or not fishing and other social, cultural and economic drivers—need to be better understood in fisheries policy and management initiatives. Fishers, fishery ecosystems, household livelihood systems, communities and economic projects along coasts are interdependent. Actions in one part of the system have implications for other parts.

Well-being

Adopting a well-being approach for building theories of change, identifying relevant interventions, and shaping evaluation systems could offer a coherent way to value the material and nonmaterial importance of small-scale fisheries.

Social scientists and small-scale fisheries researchers highlight the insufficient attention paid to finding ‘optimal solutions for both the fish and the fishers’, and find a lack of specific recommendations for fisheries management based on empirical evidence rather than general recommendations^{iv}. Some note a tendency for fisheries assessments to focus on the impacts of fisheries interventions on natural resource conservation or the economics of industrial fisheries rather than on human development. In a review of the past two decades of marine management publications^v, the finding is that there is scant evidence on how specific interventions affect people, and where it exists, the impacts are measured

Defining small-scale fisheries

Small-scale fisheries elude tight definition. Many researchers refer to small-scale and artisanal fishers. The FAO Working Group on Small-scale Fisheries (2003) suggests:

- *Small-scale fisheries can be broadly defined as a dynamic and evolving sector employing labour intensive harvesting, processing and distribution technologies to exploit marine and inland water fishery resources.*

The draft International Guidelines for Securing Sustainable Small-scale Fisheries (FAO, 2012) provide the following definitions:

- **Small-scale fishing community:** *Members of small-scale fishing communities include those dependent on the aquatic resources for all or part of their livelihoods and well-being: fishers, those involved in post-harvest and upstream activities, and their family members. Small-scale fishers and fish workers can be engaged in the sector full or part time, or on an occasional basis as a supplement to other livelihood strategies. The activities can be for commercial or for subsistence needs, or a combination of the two.*
- **Small-scale fisher:** *Person who is involved in small-scale fisheries primary production, i.e. harvesting fish or other aquatic animals or aquatic plants*
- **Small-scale fish worker:** *Person who is not involved in primary production but in other parts of the small-scale fisheries value chain and accessory activities, in both the up and downstream sub-sectors.*

Understanding well-being

A well-being lens recognizes peoples' expressed aspirations and goals, focusing on what people have and treasure, and what they feel they can do, rather than on what they cannot.

Weeratunge et al (2013) review 9 major approaches influencing current thinking and practice on well-being. They propose that the social well-being approach holds promise as a systematic means—a 'comprehensive integrating lens'—for combining material, relational and subjective aspects of people's lives.

This is quite different from the 'deficit-centred' approach to poverty and vulnerability that is more conventionally applied – one that focuses on understanding the limits of people's capabilities.

Understanding the dynamics of well-being – the diversities in how people choose to live but also how people change over time – is critical to understanding how people respond to particular events, and the trade-offs that they tend to favor.

through the narrow lens of income rather than broader effects on people's lives. Some researchers conclude that while fisheries projects might implicitly seek to reduce poverty in fishing communities, programming often fails to effectively target the poor^{vi}. In practice, the focus is often on accelerating economic growth through market-led economic policies, technology and infrastructure development, rather than an explicit focus on poverty and the inequitable distributional impacts of conservation and development programs^{vii}.

The application of Sustainable Livelihoods Approaches (SLAs) to small-scale fisheries and coastal community development projects from the late 1990's onwards represents an effort to put livelihoods and food security at the heart of fisheries work. A 2002 review of nearly 300 published and internet documents on poverty, fisheries and on lessons learned using SLAs concludes that this represents '*an improvement over conventional sectoral approaches for combating poverty in fishing communities*'^{viii}. However, it finds few studies and analyses on the '*extent, nature, causes and dynamics of poverty in fishing communities*' and '*on the impact on poverty (incidence, depth, and dynamics) of technological change, community and fishers' organizations, and alternative fisheries management governance regimes*'.

The CARE-WWF synthesis review began with a search for research studies on the application and impacts of SLAs in fisheries. Whilst SLAs are still applied in practice, we did not find more recent research publications or systematic program evaluations that would represent a body of evidence and

learning on the relevance, impacts and evolutions in practice in applying SLAs to small-scale fisheries initiatives. This suggests that there has been a missed opportunity to invest in sustained learning and evidence-generation alongside direct programming that applies SLAs.

Another critical gap in the fisheries management and research literature-- and critical to a well-being approach—is exploration of the dynamics of *gender relations* in fisheries^{ix} and coastal communities. There is a thread of work that pays attention to the role and aspirations of women in fisheries – as wives of fishermen in struggling fishing communities (in particular in the global North) and as engaged in sea-shore marine products and fishing activities, pre-harvest tasks (such as net-repairs), fish processing (artisanal and industrial) and to some extent in marketing and selling (in particular in the global South). There is another thread of literature, deriving from sociology and political science, which focuses more on women's struggles and resistance in the face of dynamics of change in coastal and marine dependent contexts^x.

However, no body of work was found that explores why and how gender relations and inequalities shape livelihoods and vulnerability in fishing communities, or shape access to and benefits from fisheries interventions. This rather brief statement on the FAO web-site under the heading 'how gender counts in small-scale fisheries' rather implies that it does not count much!

In small-scale fisheries, development policies have traditionally targeted women as fish processors. Women's groups typically received improved ovens or credit. Fisheries-related development activities have engaged men as exploiting, and sometimes managing, resources whereas women have been excluded from planning 'mainstream' fisheries activities.

So far, the implications of women's lower status in relation to men for achieving positive and sustainable change have not been examined in policy-making, although the social and economic repercussions of such policies are significant^{xi}.

The well-being approach can support the integration of actions and analysis that address the social and power relations that can hinder or liberate people's sense of self-efficacy, identity and psycho-social well-being. There is a strong community of researchers to draw upon for building collaborative work on the application of well-being approaches, from those building the rich picture of life, dignity, challenge and aspiration among small-scale fishing communities^{xii} to those assessing and measuring what enables people to change and adapt across contexts^{xiii}.

Vulnerability

Vulnerability analysis must be core to fisheries and related sectoral investments. It needs to include, but extend beyond, analysis of specific occupational hazards of small-scale fishing, and the natural hazards faced by poor coastal fishing communities. It is critical to understand the multiple drivers of change and vulnerability that are impacting fisheries and coastal communities. Drivers of change and vulnerability include major dynamics, like coastal development, as well as the risks and stressors experienced by different groups--which are often mediated through social hierarchies and norms, particularly gender.

A number of fisheries researchers^{xiv} have applied the notion that:

vulnerability = (exposure + sensitivity) – adaptive capacities

They have used this to variously model and project the vulnerability of coastal communities, national economies, and national food security to the exposure of climate impacts on fisheries.

Women's empowerment & gender transformative approaches

CARE's commitment is to *gender transformative approaches* that support progress to *gender equity* and *gender equality*, understood as follows:

- **Gender equity:** is the process of being fair to women and men. To ensure fairness, strategies and measures must often be available to compensate for women's historical and social disadvantages that prevent women and men from otherwise operating on a level playing field. Equity leads to equality.
- **Gender equality:** - or equality between women and men - refers to the equal enjoyment by women, girls, boys and men of rights, opportunities, resources and rewards. Equality does not mean that women and men are the same but that their enjoyment of rights, opportunities and life changes are not governed or limited by whether they were born female or male.

Gender transformative approaches refer to activities that seek to build equitable social norms and structures in addition to individual gender-equitable behavior. CARE does gender transformative work by focusing on two approaches: *women's empowerment* and *men's engagement*.

CARE understands *women's empowerment* takes much more than including women in projects. Women's empowerment is the combined effect of changes in:

- **Agency:** a woman's own knowledge, skills and abilities,
- **Structures:** the societal norms, customs, institutions and policies that shape her choices in life, and
- **Relations:** the power relationships through which she negotiates her path.

Understanding vulnerability

Vulnerability is commonly understood to be the outcome of the relationships between:

- **Exposure:** the extrinsic exposure of groups or individuals or ecological systems to a risk or hazard;
- **Sensitivity:** their intrinsic sensitivity to that hazard; and
- **Adaptive capacity:** their capacity or lack of capacity to adapt to change

Allison et al (2009)

...vulnerability is different from poverty, although the two concepts are intimately related. Vulnerability is in fact part of poverty in that poor people tend to be more vulnerable (more risk exposure plus more sensitivity and less adaptive capacity) than non-poor people, for instance, because they cannot access insurance or good quality services (e.g. health, education), or because they depend highly on the fisheries to ensure their food security. But it is also true that in a given environment, with the same level of income and similar access to public services, some people may still be more vulnerable than others due to the very nature of the activity on which they depend.

Bene et al (2007)

The small-scale fisheries literature identifies other risks, stressors and shocks that range from community-wide exposure to natural hazards and disasters like tsunamis to the occupational risks and hazards of small-scale fishing, such as accidents and poor health, or defaulting on loans and losing key assets such as a boat. This work shows that fishers, fishing households and communities have some ways of anticipating, preparing for and coping with these risks, stressors and shocks.

However, there are two aspects in which approaches to assessing vulnerability must be strengthened in order to identify the critical leverage points for investments in sustainable fisheries and livelihoods:

Appreciate that social relations and power dynamics shape sensitivity, adaptive capacities and some exposures

The position of individuals, households, age and social groups, determines how vulnerable they are to specific risks, shocks and stressors. For example, men and women may experience risks or change processes in different ways, by virtue of gender roles and norms in the community and economy. As fisheries policies and investments restructure processes (for harvesting, processing and marketing products) or limit access (e.g., to inshore fisheries through marine protection mechanisms), it cannot be assumed that men and women are equally sensitive or equally able to adapt to the changes. Any approach to analyze and act on vulnerability as a means to support inclusive small-scale fisheries governance systems and higher value returns to small-scale fishers must address diversity and be prepared to disaggregate coastal communities and households along gender and other lines.

Appreciate the dynamics of multiple exposures, and larger change dynamics

Poor coastal communities and small-scale fisheries are exposed to significant extrinsic drivers of change. These will increasingly

challenge the potential of achieving sustainable livelihoods and sustainable fisheries in many coastal contexts. At the very least, these drivers and any possible negative effects on fisheries management and governance goals need to be appreciated. Where possible, investment efforts need to identify opportunities to prevent, minimize, prepare for or remediate those negative effects.

Climate change - In the small-scale fisheries literature climate change is one major driver of change that is receiving systematic attention. Climate change is already having dramatic impacts on oceans and marine ecosystems through physical changes such as ocean acidification. These impacts are being felt in the livelihoods of millions of poor and vulnerable people living along coastlines. There are valid concerns that insufficient attention is being paid to enhancing the adaptive capacity of 'vulnerable fishery-dependent communities' and the 'fishers, fish processors, traders and ancillary workers' who depend on fisheries^{xv}.

Climate change impacts, in the form of weather variability, are also reducing the productivity of other livelihood sectors. In some contexts, such as Madagascar, high-latitude coral reefs may become a refuge as soils dry, livestock and agricultural yields decline, and coastal populations grow more dependent on marine resources^{xvi}.

Fisheries collapse - Fisheries collapse is also driven by other dynamics, such as over-fishing, habitat destruction and pollution. These need urgent attention. However, the trends in globalization, fisheries governance and coastal development that underpin these dynamics are largely in tension, with rights to tenure, access, use and benefits from coastal natural resources, fisheries and oceans all deeply contested.

Globalization and fisheries - Fisheries are one of the most globalized economic sectors. In 2008, the FAO estimated that 37% of fish was exported from its country of origin. While globalization and export-led growth may increase economic opportunity it can also increase exposure to change across scales and to unpredictability, for example, in levels of demand or in the market-value of products. It is not clear from the fisheries literature how to answer questions such as: 'who are the 'winners' and 'losers' in export-led growth? Or 'what are desired and desirable roles for small-scale fishers in the global supply chain?'

Some argue that export-led growth can exclude people at the bottom of social and economic hierarchies. For example, the restructuring of production from Northern to Southern fisheries and the support for export-led production may have negatively affected women's place in fisheries^{xvii}. Dependence on global processes can also come at the expense of the continued evolution of local institutions and systems that support local social and ecological resilience. Tensions may arise between increasing value and income through regional and global market engagement and maintaining a resilient, secure livelihood in local markets^{xviii}. Advocates for small-scale and artisanal fisheries argue for increased investment in this sector, suggesting that such fisheries offer comparative advantages over industrial fisheries, such as low by-catch, low fossil fuel use and high employment with industrial fishers. Small-scale fisheries appear to offer clear investment opportunities for environmentally-sustainable captures that increase food security with few social costs^{xix}.

Fisheries governance – Weak governance from the high seas to inshore fisheries continues to challenge the sustainability of fisheries and of coastal livelihoods that depend on fisheries. Many governments do not specifically track small-scale fisheries data in national surveys and accounts, and may not prioritize the role that domestic fisheries play in economic growth and in food and nutrition security. There is weak investment in building the adaptive capacities

Multiple significant exposures

The most vulnerable countries [to the projected impacts of climate change on fisheries] produce 20% of global fishery exports (by weight) totaling US\$6.2 billion (thousand million) or 13% of the total global value of exports. In the absence of enhanced capacity to cope with and adapt to the impacts of climate change, the disruption of fisheries by climate change is likely to affect large numbers of poor people, and reduce the options for future economic growth in those countries for which fisheries are important sources of food, employment and export revenues.

Allison et al (2012)

Fisheries alone support millions of impoverished coastal communities, who rely on them for both food and employment. Some 43.5 million people – mostly in the global South – are directly employed in fisheries; a figure that rises to nearly 200 million if you also consider those who work in associated processing, marketing, distribution and supply industries.

Barange and Perry (2009)

Fifty two percent of fisheries are estimated to be fully exploited, 19% overexploited, 8% depleted, and about 1% thought to have some change of recovery

The State of World Fisheries and Aquaculture (FAO 2010)

Whatever the approach [to the post2015 agenda] it must result in healthy fish stocks and resilient fisher communities in the long term.

IIED (2014)

needed to reduce over-fishing, whilst at the same time capturing more economic value from fisheries resources^{xx}.

Advocates for efforts to: ‘significantly reduce the use of large-scale fishing vessels, and favour small-scale artisanal fisheries^{xxi}’ point to the subsidies, licenses and regulations that can favor industrial fishers. Estimated at \$30-34 billion annually, subsidies (e.g., for fishing equipment and fuel) are highlighted for artificially inflating the returns to fishing. Similarly, tariff and non-tariff barriers—from sanitary requirements to access to ports to regulations on foreign investments—are highlighted for enabling foreign vessels to gain lease fishing rights over domestic vessels or hindering the development of domestic processing and packaging^{xxii}.

Coastal development – Fisheries represent only one dimension of what is happening around coastal natural resource use across the globe. A *World Ocean Review: Living with the oceans* (2010) reminds us that more than a billion people, most of them in Asia, live in low-lying coastal regions. Roughly 200 million people worldwide live along coastlines fewer than 5 meters above sea level; by the end of the 21st century, this figure is likely to increase to 400 to 500 million. Coasts are already seriously affected by intensive human activity, even without factoring in the changes that climate impacts are bringing. Coastal megacities will continue to grow, whilst new cities will be built, particularly in Asia.

It is critical to be clearer on the likely dynamics of change for coastal communities and fisheries in two arenas:

- Coastal population dynamics, i.e., the dynamics that shape the in- and out-flow of people to coastal fishing communities. In many contexts, the migratory patterns of fishers are appreciated, but what impacts will changes in fisheries policy or investments, or other coastal developments, have on migration as a coping, alternative livelihood or adaptation strategy both into and out of fisheries?
- Coastal development policies and practices i.e., the dynamics that shape the exploitation of coastal resources—for tourism, mining, fossil fuel extraction, infrastructure, agriculture, waste deposit—combined with major changes in inland resource and water use (leading to soil erosion, waste-run off, increased sediment, etc.) How do and can coastal development policies and investments present challenges and/or opportunities for poor coastal communities and impact fisheries sustainability?

It is critical to integrate analysis of the likely dynamics and directions of change into fisheries program development. Systematic application of the vulnerability framework in contextual assessments can help to:

- i) appreciate the range of risks, stressors and shocks coastal communities are managing;**
- ii) identify the type, relevance and limitations of existing approaches to preparing for, mitigating, recovering from and adapting to these;**
- iii) explore points of leverage for making investments that can reduce exposures and sensitivities and/or increase adaptive capacities.**

Resilience

Resilience is not simply about coping with a shock or about adaptation to change. Resilience is a dynamic trajectory toward sustained and sustainable well-being. This conception of resilience for human development encourages forward-looking analysis and problem-solving actions that grapple with ecological, social and political complexity.

Bene et al (2013) understand resilience in poverty and development not as the ability to maintain or return to a minimum state, but as being about ‘*adapting and learning to live with changes and uncertainty*’. Barrett and Constas (2013) note that the focus on resilience foregrounds the dynamics of risks, stressors and shocks, the cumulative impacts of which are critical to understanding poverty dynamics. It requires us to have a framework for integrating resilience into core poverty alleviation work.

However, the application of resilience to human development is challenging in at least three aspects.

- Resilience in human development is not inherently a pro-poor concept. We need to explicitly imbue it with value. Barrett and Conostas propose that for development agencies with a strategic a focus on well-being as the outcome of concern, then ‘more’ resilience is better than less. However, as Bene et al note, there are frequently trade-offs between the interests of different groups in the same system: one person’s resilience may contribute to another’s vulnerability.
- Resilience in human development is not inherently about the ‘persistence of relationships in a system’ (which Barrett and Conostas note is core to debates on ecological resilience). To achieve the likelihood of well-being in the face of a dynamic multitude of risks, stressors and shocks over time, people and human systems need capacities to cope, recover and adapt. But they also need capacities to *transform* or to promote *productive disruption*^{xxiii}, whereby the underlying system – which traps people in poverty – is itself fundamentally changed.
- Resilience in human development is not inherently good for resilience in critical ecosystems. Conceptions of resilience for development need stronger theoretical and empirical underpinnings in terms of building understanding of the dynamic relationships between people and ecology; between ‘just’ and ‘sustainable’.

As people experience an increasing frequency, depth and multitude of covariate risks and idiosyncratic shocks it becomes critical to integrate a robust analysis of risks and drivers of vulnerability into theories of change. This challenges us to move beyond sectoral silos: ‘Resilience thinking can help policy and development actors realize how intervention into one part of a system can help or hinder another part’^{xxiv}.

Conclusions

Small-scale fisheries researchers and advocates essentially make that case that with a level playing field, political will, effective governance and investment, small-scale fisheries can thrive – both in terms of enabling sustainable livelihoods for those who fish and in promoting the sustainability of inshore fisheries. This is a matter of justice as well as sustainability.

Targeted fisheries investments—enabling inclusive and effective governance of fisheries, and supporting small-scale fishers to capture greater value—appear critical to this agenda. However, efforts must

Understanding resilience

The work of Chris Bene, Andy Newsham and Mark Davies at the Institute for Development Studies, and of Chris Barrett and Mark Conostas at Cornell University provide relevant and thoughtful conceptions of resilience.

A conception of resilience for development:

the capacity over time of a person, household or other aggregate unit to avoid poverty in the face of various stressors and in the wake of myriad shocks. If and only if that capacity remains high, then the unit is resilient.

Barrett and Conostas (2013)

Resilience is not just about the ability to maintain or return to a previous state; it is about adapting and learning to live with changes and uncertainty.

Bene, Newsham and Davies (2013)

Resilience stems from the combination and synergies between three types of capacities:

- **absorptive capacity**, the ability to cope with and absorb the effects of shocks and stresses;
- **adaptive capacity**, the ability of individuals or societies to adjust and adapt to shocks and stresses but keep the overall system functioning in broadly the same way; and
- **transformative capacity**, the ability to change the system fundamentally when it is no longer viable

Bene, Newsham and Davies (2013)

continue to address and validate the social, economic and environmental effects of fisheries governance systems and inclusive fish value chains. In particular female as well as male fishers must benefit from these investments.

Supportive and complementary investments are also needed to promote the effectiveness of interventions to promote sustainable livelihoods and sustainable fisheries. 'Alternative livelihoods' that enable people who depend on fishing for some portion of their household livelihoods portfolio to invest time and assets in other productive activities appear key. However, efforts must continue to understand and validate what those alternative livelihoods are or can be, and the shifting (and gendered) relationships between 'alternative livelihoods' and 'fishing livelihoods' in households. In some contexts, a critical alternative livelihood already lies in small-holder agriculture, livestock or other form of natural resource management. These need to be promoted, but with care so as not to undermine sustainable fisheries and wider natural resource management goals. In other contexts, it may not be clear what the alternatives are, and this requires robust analysis and action not token livelihoods efforts, if efforts around sustainable fisheries are going to make progress.

It is clear that the dynamics of risk, stressors and shocks need to be addressed. Fishers and poor coastal communities have limited ways in which to prepare for, mitigate and recover from crises. In developing country contexts, the systems that exist are primarily of a household—at times, community--and informal nature. Explicit efforts are needed to promote *absorptive* and *adaptive* capacities. These can take the form of direct investments to innovate, test and integrate interventions into programs, or to leverage the enabling policies and investments of the multiple players that have a stake in resilient coastal communities and sustainable fisheries. The types of interventions that may be able to contribute to building these capacities are already understood in terms of promising development practice. These include: i) promoting good governance, empowerment and social cohesion through training and mentoring of groups and collectives; ii) expanding access to a range of financial services and inputs, from saving formation to accessing credit, availability of insurance, payments for providing environmental services through to ensuring basic safety nets and social protection; and iii) community and local government systems for early warning, disaster risk reduction and community- and ecosystem-based adaptation. Potentially strategic investments in these core areas, as relevant to specific contexts, could dramatically promote capacities key to reducing vulnerability.

Ultimately, the road to resilience is more complex. The positive drivers of 'transformation' or 'productive disruption' are less clear. However, it is likely that three core areas of focus will be critical: i) basic service development – addressing chronic coastal poverty in terms of health, education and connectedness; ii) effective and inclusive governance in which rights and responsibilities to access and control natural resources are clear and just; and iii) gender transformative approaches that enable rapid transition to gender equity and equality in coastal communities and small-scale fisheries.

No one program or actor can address these alone. The focus must be on making the intentional investments in effort and funding to leverage the power of multiple stakeholders – from government, to community organizations to institutional development partners.

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i	Bene et al 2007
ii	Johnson et al 2012
iii	Bene et al 2007
iv	Johnson et al 2012
v	Carnerio 2011
vi	Macfadyen and Corcoran 2002
vii	Bene et al 2007
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ix	Williams et al 2012
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xi	http://www.fao.org/fishery/topic/16605/en#container 6 th February 2014
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xxi	UN-NGLS policy recommendations to the UN OWG (2014)
xxii	IIED 2014. The authors propose that the approach to eliminating these subsidies be different in the developing world where concern with the overall wellbeing of fisher communities must shape the process of elimination.
xxiii	Barrett and Conostas 2013
xxiv	Bene et al 2013