

ENHANCING SMALL-SCALE FISHING COMMUNITINES THROUGH THE
ADVANCEMENT OF WOMEN'S PARTICIPATION IN THE SUSTAINABLE
LIVELIHOODS FRAMEWORK

By

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Abstract

Globally, fisheries are in a precarious position. Climate change, over-fishing and pollution threaten marine eco-systems and the communities that rely on them. As so often is the case, these pressures are experienced disproportionately by lower-income nations (LIN) and in the marine context, small-scale fisheries (SSF) in particular. Despite SSF being the dominate scale of fishing the world over they remain undervalued and inadequately managed. However, there is strong evidence that, if better understood and properly managed, they could be a more viable fishing sector than large-scale fisheries and be a unique starting point for implementing strategies addressing poverty alleviation, sustainable livelihoods and other issues facing LIN. In order to better manage SSF in the future, it will require a more holistic and participatory approach, and there may be no better place to start than by examining the substantial yet underappreciated roles of women in SSF. In many ways, the contribution of women in SSF in LIN far surpasses that of men and yet they remain marginalized not only in their roles and in decision making but even within fisheries research. This paper presents some of the evidence supporting SSF as a viable sector in LIN and more importantly the often hidden contributions of women working in these fisheries. This paper also presents research conducted on the gender dimension in tuna fisheries in the Maldives. And finally, through the sustainable livelihoods approach and a gender focused research framework, this paper will explore strategies for enhancing conditions and standings of women working in SSF in LIN.

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Abbreviations and Acronyms

CEDAW	Convention on the Elimination of All Forms of Discrimination against Women
FAO	Food and Agriculture Organization
FAN	Fisherman’s Association of Naifaru
GDI	Human Gender Index
LIN	Lower-income nations
HAF	Harvard Analytical Framework
ROC	Rapid Ocean conservation (grant)
SSN	Small-scale fisheries
UN	United Nations
LSF	Large-scale fisheries
SLA	Sustainable Livelihoods Approach
HAF	Harvard Analytical Framework
MDG	United Nations Development Goals
CSD	United Nations Conference on Sustainable Development
GDI	Gender Development Index
HDI	Human Development Index

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1. Introduction

It is not uncommon in international development work for there to be an evolution and shifts in approaches over the course of history. Often these shifts arise when it becomes apparent that the development approaches of that period are not working. This could be said of the current trends in management and development strategies of small-scale fisheries (SSF) in lower-income nations (LIN). Historically, the belief has been that this scale of fishing was the result of the economic conditions of these nations and therefore, like other aspects of their economies need to be developed and invested in, in an effort to help them evolve to more industrialized and larger-scale forms of fishing (Béné et. al., 2007). Efforts therefore have focused on trainings and updating gear. In the processes, many features of these communities were ignored and as a result have suffered (Béné et. al., 2007). This has been the case for women working in SSF in LIN, who have just as meaningful contributions to the success of these fisheries as men, with the added burden of managing the home and raising children (OECD, 2012). In recent decades, with more international development recognizing the need to invest in the elevation of status of women, as well as new perceptions of the value of SSF in LIN, there is a small but robust movement towards capturing the potential of women and the benefits they have towards SSF. This paper aims to highlight some of the advantages of SSF in LIN and more importantly the contributions and opportunities for women working in this sector. Finally, this paper will explore possible approaches for enhancing the status of women working in SSF and thereby improving SSF in LIN.

1.1 Background: The role of small-scale fisheries in lower-income nations and contribution of women

Small-scale fisheries by their very name and the regions where they predominately function are often mistakenly perceived as both economically insignificant and an outmoded sector (Béné, 2006). However, considering estimates such as SSF employing 37 million people and directly impacting another 357 million (FAO, 2012), and that the overwhelming majority of fisheries worldwide are at the small-scale level, a new perception of their relevance begins to emerge. SSF can be defined as:

“a dynamic and evolving sector of employing labor intensive harvesting, processing and distribution technologies to exploit marine and inland water fishery resources. The activities of this sub-sector, conducted full-time or part-time, or just seasonally, are often targeted on supplying fish and fishery













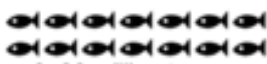

products to local and domestic markets, and for subsistence consumption. Export-oriented production, however, has increased in many small-scale fisheries during the last one to two decades because of a greater market integration and globalization. While typically men are engaged in fishing and women in fish processing and marketing, women are also known to engage in near shore harvesting activities and men are known to engage in fish marketing and distribution. Other ancillary activities such as net-making, boat-building, engine repair and maintenance, etc. can provide additional fishery-related employment and income opportunities in marine and inland fishing communities. Small-scale fisheries operate at widely differing organizational levels ranging from self-employed single operators through informal micro-enterprises to formal sector business. This sub-sector, therefore, is not homogenous within and across countries and regions and attention to this fact is warranted when formulating strategies and policies for enhancing its contribution to food security and poverty alleviation.”

(FAO/Advisory Committee, 2003, p. 21)

Because of the lower startup capital required and more rudimentary technology used in SSF it is not surprising then that SSF are the predominate fishing sector in lower-income nations (FAO, 2016). However, the perspective that SSF are a product of this economic state has further diminished their relevance among researchers and policy makers (Béné, 2006). A more practical view of SSF in LINs may be that, if better understood and properly managed, SSF could be a valuable asset to LIN in poverty alleviation, food security, livelihoods and resource management. SSF contribute to poverty alleviation by not only providing a commodity that can be sold, but by the creation of other jobs that supports the sector such as the manufacturing and maintenance of equipment used in fishing (Béné, 2006). Proper management of SSF is most crucial to food security as, for a vast number of coastal communities, fish is the primary source of protein (Tidwell, 2016) It is also important to not underplay the very important social and cultural role SSF inhabit in many LIN, where entire communities’ social structure and identity revolve around fishing (Weeratunge, et al., 2014). Disregarding SSF in LINs is ignoring the very significant social, economic and cultural position this livelihood occupies. There is also substantial evidence that SSF are far more environmentally and economically sustainable than large-scale commercial fishing (Jaquet, 2008). Apart from SSF employing vastly greater numbers of people than large-

scale fisheries (LSF), SSF consume 1-2.5 million tons of fuel annually to the 14-19 million tons consumed by LSF (The WorldFish Center, 2008). Further, SSF 500-4,000 fishermen per the 5-30, for each \$1 million invested in fishing vessels. Other statistics such as LSF destroying up to 16 million tons of fish as by-catch in shrimp fisheries each year while SSF are responsible for none, suggest a viable and more sustainable industry (“Small-scale capture fisheries” 2008).

Table 1. A Comparison of Small-scale fisheries and Large-scale fisheries

FISHERY BENEFITS	LARGE SCALE 	SMALL SCALE 
Subsidies	\$\$\$\$\$ 25-27 billion	\$ 5-7 billion
Number of fishers employed	 about 1/2 million	 over 12 million
Annual catch for human consumption	 about 30 million t	 same: about 30 million t
Annual catch reduced to fishmeal and oils	 35 million t	 Almost none
Annual fuel oil consumption	 about 37 million t	 about 5 million t
Catch per tonne of fuel consumed	 1-2 t	 4-8 t
Fish and other sealife discarded at sea	 8-20 million tonnes	 Very little

(Jacquet, 2008, p. 1)

There are a number of reasons the viability of SSF is so misunderstood. Apart from the described stigma of being inconsequential economically and an obsolete sector, LInS often lack the resources and organizational capacities to devote to the research and evaluation of SSF (WorldFish Center, 2008). Additionally, when the resources and impetus are available the research of SSF often takes a backseat to terrestrial agriculture. Furthermore, many of the issues that impede SFF are typically the result of or compounded by broader challenges facing the country, for example, in areas where disease is endemic, the productivity of the fishing sector will suffer because either because people who are ill cannot go fish or profits from the fishing go towards paying medical costs.

The significance of SSF and their potential in international development in LIN can hardly be denied and yet attention to the research and enhancement of SSF remains limited (Berkes, 2001). The majority of what is documented of SSF in LIN is rather cursory and focused primarily on fishing techniques and catches and fails to acknowledge the unique social status and stakeholder interactions that characterize SFF in LIN (Klieber, et. al, 2015). One such oversight that will be the focus of this paper is the extraordinary and often underappreciated contributions of women in SSF in LIN. On a global scale over half of the people employed in the capture fisheries and post-harvest sectors are women (Holland et. al., 2016). In lower-income regions such as Western Africa and parts of Asia, half of the inland fisheries' workforce and 60%-80% of seafood is marketed by women (FMECD, 2013). While the most visible aspect of this participation is the processing and vending of fish, in many LIN women are directly involved in the harvesting of fish, often gleaning but in some countries women are going to sea in boats (Ashley, 2016). Assuming the size of this catch is inconsequential would be a major underestimate when it is estimated that the total revenue of small-scale catches taken by women, globally, has an economic impact of 360 million USD (Harper, 2013). These estimates in the number of women involved in harvesting are likely to continue to rise as more women find their way into aquaculture which has seen a major increase in production in recent years. Globally, the processing and selling of fish is dominated by women. To put this contribution in perspective it is estimated that, "the per capita income of women derived from fish marketing and processing is higher than the per capita income of their husbands and sons from fish capture (Polotan, 1994). Indeed, in many parts of the world, men have no contact with the fish once it has been delivered to the shore. Overseeing monetary exchanges in the market also gives women unique access to lines of credit. In West Africa for example, women working

in markets provide monetary credit to fishermen and are responsible for client-patron relationships (Harper, 2013). This intimate knowledge of finances presents a very logical inroad for development work and investments. In other areas of the world, women own and lease fishing vessels and equipment. When one begins to uncover the hidden roles of women a more accurate representation begins to emerge, one in which women are as equally involved in the fishing sector, with equally as significant impacts as their male counterparts and yet they remain hidden and therefore underestimated and unequally represented in research and policy creation.

Despite the evidence that women play an integral role in SSF, their impact on fisheries is often overlooked in research and therefore, misunderstood. There are any number of reasons for this oversight in fisheries research, one underlying cause of this oversight are the parameters that scope many fisheries studies. Many studies on fishing in SSF will define fishing as, activities undertaken away from shore, in a vessel for example (Klieber et. al., 2015). This automatically precludes women from the study, as women are primarily engaged in near-shore harvesting and gleaning (Béné et. al., 2007). This may be of little consequence if the study is only examining at-sea fishing, but if the aim of the study is to report on the condition of the eco-system or health of a stock, then by ignoring the activities of women near shore, the results will be seriously deficient. Furthermore, if decisions are made under these pretexts, the decisions are not only going to be inadequate but could also have unforeseen consequences for the women fishers. Another misconception of women's roles in SSF in LIN is that because these are often secondary and tertiary roles, they do not merit the immediate attention of development plans and research, but considering how much markets influence fishing, for example, it is imprudent to not give such secondary and tertiary roles their due attention (Andrew, 2007).

Acknowledging the gender dynamics of SSF particularly in LIN is a vital step in managing SSF. As will be demonstrated throughout this paper, failing to consider the contributions of women in SSF in LIN not only impacts the women living in these communities but has far reaching implications for the entire community. As one researcher remarked, “gender discrimination...threatens not only the credibility of policymakers, but also jeopardize the sustainable livelihood of fisher's families and the economic success of the sector.”

(FMECD, 2013, p. 4)

1.2 The importance of gender research in fisheries

Gender analysis in research is by no means a new endeavor, however due in part to a lack of understanding, logistical disagreements and a lack of will, it remains absent from most studies. Gender analysis can be defined as,

“a critical intellectual practice within the social sciences. Its central focus is on analyzing inequalities in gender relations, their causes, consequences and processes of these changes. Its aims vary but commonly include generating recommendation for gender sensitivity or gender equity in policy design and/or raising political consciousness of gender amongst the general public, researchers, policy-makers and participation.” (Kawarazuka, 2016, p. 8).

To understand why gender disaggregation needs to be considered in fisheries research, it is important to first recognize that men and women experience fisheries and livelihoods differently. These differences are rooted in social status, access to assets, social roles, and cultural norms (Waller, 2016). One challenge that researchers and policy makers confront in deciding on sufficient policy is that women, particularly in LIN occupy a multi-dimensional role in the community. In most LIN, women are responsible for managing the home; cooking, cleaning, etc. and raising children. In SSF communities then, these extenuating responsibilities come on top of whatever activities they are engaged in in the fishery, be it harvesting, processing or selling. Considering these differences in roles and experiences between men and women is essential therefore, because before any sort planning for policy reform or improvements can begin, the context and condition of a fishing community must be understood.

In terms of experiences and ecological knowledge, men and women have unique and differing perspectives of their surroundings as well. While these may be differing perspectives, this does not necessarily mean they conflict with one another. Men may have an accurate and thorough understanding of the condition of the fishery off-shore, where they spend much of their time, so then it could be presumed, they are going to have a lesser or second hand understanding of the condition of the nearshore ecosystem. Similarly, with women responsible for the processing and selling fish, women are in a much better position to make valuation of the markets. Therefore, as it is well recognized that the nearshore ecosystems impact offshore ecosystems (Eriksson, et. al., 2011), and that markets heavily influence the success and activities of fishermen out at sea, it is apparent that the inclusion of women in research and policy development is essential (Cinner, et. al., 2012). Another very important dimension that should

be noted of the differences in the way women and men experience fisheries, is their use of income and resources. This point will be elaborated on further along, but for now, one of the more common statistics that appears in many studies of SSF in LIN is, that women tend to spend their income on the family or home, while men will spend their income from fishing on personal indulgences and not on the family or home (Ganesh, 2010) and this may include for example, on alcohol or prostitutes (Ganesh, 2010). This is by no means across the board, but it is the case often enough that it is worth point out and something to consider for development agencies looking to invest in communities or sectors.

Apart from the human induced pressures, the impacts of climate change, natural disasters and the like, also disproportionately impact women over men (Denton, 2002). Several examples support this claim, but perhaps the most pertinent and current scenario is the one unfolding throughout coastal LIN because of climate change. With increased ecosystem degradation and diminishing fish stocks, fishermen are finding it increasingly difficult to make a living and provide for their family which has led to increasing migration (Black, et. al., 2011) Unfortunately, this type of migration does not usually include relocating the entire family and it is most common for women to be left behind because they are the primary caregiver for children as well as aging adults (Donahoe, 1999).

Despite its evident place in research, the adoption of gender analysis across disciplines has staggered for a variety of reasons. To begin with, there is a lack of consensus over the most appropriate framework and strategies for implementation of gender analysis (Pfau-Effinger, 1998) This lack of established parameters and training has led to another hurdle in the elevation of gender analysis in research. Researchers determined to integrate this analysis into their studies are often unprepared and inadequately trained which in turn leads to sub-quality results (Kovalainen, 1988). Another challenge facing the mainstreaming of gender analysis is that many existing gender research frameworks rely heavily on qualitative data, which has led to a severe deficiency in quantitative data on women in fisheries worldwide (Buvinic, et. al., 2014). Moreover, policy makers and fisheries managers remain unclear on how best to utilize the existing data. Similarly, integrating gender research and data into other conservation efforts, such as environmental assessment has had little success. It is important to note as well, that in LIN there is often a lack of resources and institutional capacity to devote the necessary time to collecting gender disaggregated statistics (Bennett, 2005). It is also important to not

underappreciate how complex research of the gender dimension in any field can be, because of how deeply engrained these notions are in society.

The differences between the experiences of men and women in fisheries and livelihoods must be accounted for to have a more robust understanding of the community before making marine conservation and management decisions. These differences in experiences should not always be seen in a negative light as management overall may stand to benefit whenever there is increased information and data.

1.3 Millennium Development Goals, Sustainable Development Goals, FAO Guidelines on SSF and the Gender Development Index

As with any shift in a trend or approach to research, across disciplines, for the trend to really take hold, there must be agreement across institutions and also a noteworthy gesture by a prominent institution. In the case of the recent increased attention to the gender dimension in research, the United Nations (UN) has taken concrete steps in support of this endeavor. Perhaps the most recognizable organizations and campaigns to attempt to close the gap on gender inequality are the United Nations' Millennium Development Goals (MDG), the United Nations Conference on Sustainable Development (UNCSD), and the Food and Agriculture Organization's (FAO) Voluntary Guidelines for Securing Sustainable Small-Scale Fisheries. It is important to note that while each of these represents an independent initiative, they each act to guide and support one another. Additionally, tools such as the UN's gender development index (GDI) have helped public and private development agencies identify disparities in gender equality.

The MDG were developed in 2000 at the Millennium Summit in New York. The magnitude of the issues targeted are unparalleled in scale, and hinge on the acceptance and cooperation of the international community. Considered a culmination of a series of UN summits, the Millennium Summit, attended by 189 countries produced what would eventually become known as the Millennium Development Goals and are as follows:

- Eradicate extreme poverty and hunger
- Achieve universal primary education
- Promote gender equality and empower women
- Reduce child mortality
- Improve maternal health
- Combat HIV/AIDS, Malaria and other diseases

- Ensure environmental sustainability
- Global partnership for development

It should be noted that the deadline for these goals was the year 2015. As this date, has come and gone, the UN has reconfigured these goals somewhat and made some additions as well. These goals are clearly geared towards issues facing LIN and as the authors note, making globalization a force for good, but they are perceptibly designed with women in mind. In respect to addressing gender equality, goal 3, “Promote gender equality and empower women,” the UN argues for increased access to education for girls, supporting women in entrepreneurship, access to land ownership, and challenging violence against women. Goal 3 is the most ardent effort towards gender equality, but goals 2. Achieve universal primary education and goal 5. Reduce child mortality are geared towards the enhancement of the quality of life for women as well.

The UN’s sustainable development goals (SDG) were the result of the 2012 earth summit or Rio+20. Part of the program officially known as “Transforming our world: the 2030 Agenda for Sustainable Development,” developed a set of seventeen aspirational "Global Goals" with 169 targets between them.” (UN, Sustainable Development Goals, 2016) The premise of the SDG and the MDG are quite similar, and really the SDG are intended to build on the MDG and in part address the SDG’s weaknesses in addressing the natural environment. Sustainable development goal 5 , “Achieve gender equality and empower all women and girls” (UN, 2016), calls for the end of all discrimination and violence towards women. Through legal and legislative reform the UN promotes greater inclusion of women in decision making, increased access to education and further economic empowerment.” (UN, SDG, 2016) Again, much like the MDG, each of these goals, even if not outright stated tent to benefit women.

The FAO’s voluntary guidelines on SSF for its part, is quite independent of SDG and MDG in its development, however, its goals still align with the other two initiatives in aiming to end extreme hunger and poverty, and it was built on many of the same principles of inclusion and human rights. The voluntary guidelines however, are much more direct in their intention of addressing the needs of women in SSF, even going as far as to make gender equality part of the principles of the guidelines, writing, “Gender equality and equity is fundamental to any development. Recognizing the vital role of women in small-scale fisheries, equal rights and opportunities should be promoted.” (FAO, 2015, Page 8) The voluntary guidelines stand apart from the SDG and MDG in respect to their attention to gender equality in that they do not leave it as a standalone objective but rather a theme that runs throughout the document. The voluntary

guidelines stress that one of the first steps to achieving equality in SSF and aquaculture is recognition of the diverse and vital roles women play in these sectors. The document is divided into two parts, the first portion “Responsible fisheries and sustainable development,” addresses tenure rights in SSF and sustainable management of resources, reiterating the need for inclusion and participation of women in both efforts. In this part as well, the voluntary guidelines outline an approach to enhancing gender equality in SSF. This approach stresses the need for SSF to comply with existing human rights policies and develop further gender equality and human rights measures relevant to that particular SSF. The guidelines also push for the development of better technologies and advanced training specifically geared towards the jobs women perform in SSF. The second part of the FAO’s guidelines for SSF, “Ensuring and enabling environment and supporting implementation,” stipulates the context for implementing sustainable policy in SSF. Among these provisions, research and communication, policy cohesion and capacity building are given the highest priority. Again, underlying each of these imperatives is recognition of the need for inclusion of women and the enhancement of their roles in fisheries.

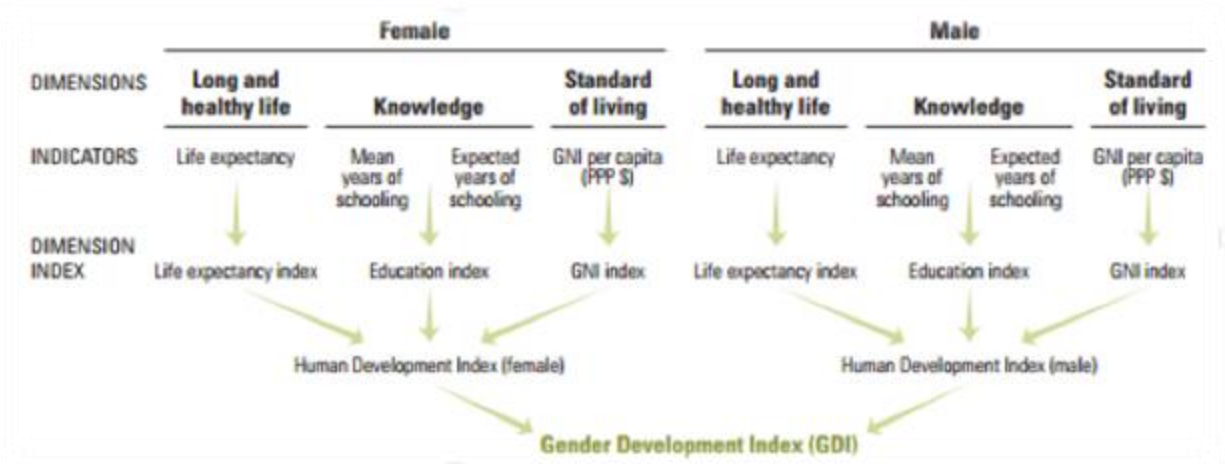
While these initiatives appear to be quite similar at first glance, there are a few notable differences between them. Again, the SDG was intended to strengthen the inadequacies of the MDG. These primary inadequacies being not comprehensive enough, not being participatory enough, as well as not focusing enough on the environment. These differences and similarities aside, the important point to note, for the sake of this paper, is that each of these initiatives is clearly and consciously promoting the inclusivity and enhancement of the roles of women throughout their strategies.

1.3.1 Gender Development Index (GDI)

Another promising tool developed by the UN to examine the gender inequalities in countries and one that has applications in fisheries research is the Gender Development Index (GDI). The GDI, which has been assessed for 161 countries to date, evolved from the existing Human Development Index (HDI), and it is essentially assigned by calculating the ratio of HDI separately for males and females (United Nations, 2016). The GDI examines the disparities between men and women based on three dimensions of human development: “health, measured by female and male life expectancy at birth; education, measured by female and male expected years of schooling for children and female and male mean years of schooling for adults ages 25 and older; and equitable command over economic resources, measured by female and male estimated earned income.” (UN, 2016) The resulting calculations are then scored on a scale from

very low human development to very high. While the GDI does not necessarily uncover the underlying cause of these conditions, it is an excellent tool for The GDI, much like the HDI it is an excellent tool for establishing an immediate, overall picture of the state of equality in a country.

Table 2. Gender Development Index



<http://hdr.undp.org/en/content/gender-development-index-gdi>

1.4 Problem Statement

Despite the overwhelming evidence of the contributions women have in SSF in LIN, this dimension continues to be underrepresented in research and policy making. This underrepresentation not only impacts the women in SSF, but has implications for the entire community and beyond. While there has certainly been a perceptible increase in the amount of attention devoted to this topic, the amount of data both quantitative and qualitative, is still lacking. Furthermore, once an accurate and sufficient amount of data has been collected, the question remains, how will these data be interpreted and incorporated into policy making? The overarching problem however, is that we cannot expect to be adequately managing and monitoring SSF in LIN or expect to make informed decisions if women are not accurately represented in data as well as in the decision making process.

1.5 Research objective, questions, and methods

The aim of this research is first to substantiate the assertions that women make key contributions to SSF in LIN. Based on this evidence, the next part of this research is to explore how the roles of women in SSF in LIN can be enhanced in the context of the sustainable

livelihoods approach? This research will be undertaken in the Maldives, where both fishing and the role of women in the fishery, remain important.

To conduct this research, I spent a total of two months in Naifaru, Maldives (see below), as part of a program-mandated internship placement with the International Pole and Line Foundation (IPNLF). For my internship, I was placed in Naifaru to engage in participant observation in hopes of generating a first look at the role of women in fisheries, fisheries supply chains, and fisheries communities in the Maldives. This internship was very exploratory in nature. Methodologically, I had hoped to conduct interviews in the Maldives as part of my project research, but I was unable to secure ethics approval from Dalhousie, despite several attempts.

Participant observation, as engaged in for my internship, is anthropological and sociological research method that depends on observing the daily routine and interactions between participants or populations and limited, informal interface, with participants (Kawulich, 2005). A participant observation method was chosen for this research because it was well suited for grasping how people communicate, relationships in a community, duration of time spend on activities, and allows researchers to draw conclusions that participants may be hesitant to share (Kawulich, 2005). During the two months in Naifaru and surrounding atolls, I liberally spoke with women and men in the community to gauge the role of women, and the emerging innovative women-led initiatives in the region. Results from the internship, which I draw heavily on in this project report, are forthcoming, and will be available in a public report on the website of IPNLF.

[1.6 An introduction to Maldives and research site](#)

The Republic of the Maldives is an island nation located in the Indian Ocean 1,300 miles from the southwestern tip of India. The country is comprised of some 1,291 low-lying islands dispersed between 26 coral atolls. Of these 1,291 islands, only 187 are inhabited. For much of history, the Maldives remained an isolated country apart from trade with nearby countries. In the late 1970's however, the Maldives was exposed as a luxury vacation destination, quickly becoming world renown. The vast amounts of capital that began pouring into the nation fueled development at an unbridled rate. Within less than 20 years, islands transformed from rudimentary settlements to having plumbing, electricity, hospitals, schools, etc. Investment in tourism and luxury resorts continues to rise but fishing remains a vital sector in the Maldives and a part of their cultural identity. For most of history, fishing was the foundation of communities in

the Maldives, with each member of the family contributing to the harvesting and processing of the fish. Seafood, predominantly tuna, is still the primary source of nutrition for most families in the Maldives, on most days, tuna is served at every meal of the day. Another unique characteristic of tuna fishing in the Maldives is the traditional pole and line technique used by the majority of the time, only substituted at times by handlining. This technique has been used for generations and is performed precisely as it sounds; using only a bamboo or fiberglass pole, with a short line and a uniquely designed hook, up to fifteen fishermen line the back of the fishing vessel. With two fishermen dispersing small bait fish from the sides, known as chumming, the vessel slowly begins trolling in wide circles. The fishermen then whip their empty hooks in the water and almost immediately they will hook a fish, predominately skipjack, which they quickly throw over their shoulder and onto the deck of the vessel. This process continues until either the deck is entirely full or the bait fish are gone. The tuna is either sold to the processing plants or returns to the community where it is sold in the market. The purchased tuna is then either cut and smoked for storage or cut and sold to make other tuna based products such as crackers and chips.

The rapid development of the economy in the Maldives has brought with it considerable social change as well. This is exceedingly apparent with issues of gender. Speak with any Maldivian over the age of 40 and they will tell you that the access to education and job opportunities for women was nowhere near the same just 20 years ago. For many women only a generation ago, school ended after junior high, while today, the gap between the number of women and the number of men pursuing higher education is closing quickly (The World Bank, 2016). As well, for the first time in history, women were elected into parliament in the most recent elections. While more difficult to qualify, attitudes surrounding gender are changing as well in the Maldives.. Currently, the Maldives occupies a high level on the HDI and medium ranking on the GDI. Among countries bordering the Indian Ocean, the Maldives is second only to Sri Lanka between GDI and HDI rankings.

Table 3. The Maldives' GDI score

Country	Gender Development Index		Human Development Index (HDI)		Life expectancy at birth		Expected years of schooling		Mean years of schooling		Estimated gross national income per capita		
	Value	GDI groups	Value		(years)		(years)		(years)		(2011 PPP \$)		
			Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	
	2014	2014	2014	2014	2014	2014	2014	2014	2014	2014	2014	2014	
104	Maldives	0.937	3	0.678	0.723	77.8	75.8	12.8	12.5	5.7	6.0	8,531	16,073

<http://hdr.undp.org/en/composite/GDI>

The Maldives has also prided itself in its success in tackling the MDG and, according to the UN development program, the Maldives has achieved five of the eight goals. In terms of promoting gender equality and empowering women the Maldives, has taken the steps and made the necessary changes to legislation to make this possible (Department of National Planning, 2010). These changes include restructuring ministries in order for more effectively plan and implement strategies geared towards empowering women (Department of National Planning, 2010). The policy office of the Office of the President has also developed a gender equality policy and gender mainstreaming operationalization framework that will, as they say, “to facilitate informed decision leading to the practical realization of gender equality goals.” (Department of National Planning, 2010, p. 48) In another substantial move, the Maldives has officially accepted the terms of Article 7 of Convention on the Elimination of All Forms of Discrimination against Women (CEDAW), which gives women the right to vote in all elections and referendum.

Table 4. Ratios of girls to boys in primary, secondary and tertiary education

Indicators for Monitoring Progress	Baseline	2005	2007	Current (2009)	Target (2015)
3.1. Ratios of girls to boys in primary, secondary and tertiary education					
http://planning.gov.mv/yearbook2009/Education/7.2&fig7.2.htm					
Primary education (Nationwide)	N/A	N/A	0.98	48% girls	50%; on track
Primary Education (Male')	N/A	N/A	N/A	49% girls	50%; on track
Primary Education (Atolls)	N/A	N/A	N/A	48% girls	50%; on track
Secondary education (Nationwide)	N/A	N/A	N/A	50% girls	50%; achieved
Secondary education (Male')	N/A	N/A	N/A	51% girls	50%; achieved
Secondary education (Atolls)	N/A	N/A	N/A	50% girls	50%; achieved
Tertiary education (Nationwide)	N/A	N/A	N/A	48% girls	50%; on track
Tertiary education (Male')	N/A	N/A	N/A	50% girls	50%; achieved
Tertiary education (Atolls)	N/A	N/A	N/A	45% girls	50%; on track
3.2. Share of women in wage employment in the non-agricultural sector	15.8 (1990)	N/A	30 (2006)	N/A	
3.3. Proportion of seats held by women in national parliament (%)	4	12	12	6	

(Department of National Planning, 2010, p. 45)

It would certainly appear that the government of the Maldives is actively pursuing measures to increase equality and empower women, but likewise, the authors of the UN MDG country report acknowledge there is still work to be done. One concern that still faces many women in Maldives is domestic abuse and more specifically attitudes towards reporting domestic abuse. According to the Maldives' Ministry of Gender and Family, domestic abuse will affect 1 in 3 women throughout their lives (Fulu, 2007), which slightly higher than many developed parts of the world. This statistic among others like it lead to the creation of the Domestic Violence Prevention Act (DVPA) in April of 2012. The issue persists however, and cultural taboos surrounding reporting violence in the home are still a challenge to address by any current measures.

Other contemporary issues threaten to derail the advancements women are making in Maldivian society. Most recently, there has been a perceptible shift towards conservatism in some of the Atolls and even within the federal Government (Majeed, 2014). This shift has materialized in parents not allowing their daughters to attend school or move out of the home

until they are married. In other areas, businesses are refusing to hire women, where this was previously not the case. Even more concerning is what many media outlets are reporting as a possible turn towards radical Islam in the Maldives (Eremy, 2016). This has been confirmed by reports of ISIS recruiting large numbers of Maldivians to fight in Syria as well as a video of ISIS members threatening Maldivian politicians if they do not implement sharia law (Eremy, 2016). It is important to note that these trends are very recent and still conjecture and should not detract from the great strides the Maldives has taken as far as improving equality and empowering women, this should also highlight the point that conditions for women in a country and the improvement of these conditions is very much contingent on the political atmosphere which is a heavy influence in the sustainable livelihoods approach, that will be introduced further along.

1.6.1 Naifaru: Research Site

Naifaru is the largest and most populated island in the Lhaviyani atoll, which is some 140 miles north of Male, the capital city. The population of the island is officially over 2,000 people, however with so many inhabitants working in other atolls or at school in Male, it is rare for that many people to actually be present on the island at one time. Naifaru is primarily a fishing village, and it is located near Felivaru, which is one of the larger tuna processing plants in the Maldives and employs predominately women. It is also an island that is in a period of transition, in terms of its fishing identity. For these reasons, Naifaru was selected as the research site for this project. Speaking with many long-time residents of Naifaru, they describe a time when fishing was the most productive occupation in the atoll and that



<http://www.ezilon.com/maps/asia/maldives-physical-maps.html>

nearly every family had a member that fished. Now, fishing boat captains claim that at times they have trouble finding enough people for a full crew. They also describe a time when the tuna from a fresh catch would fill every market stall and that the price was very low. Now, it is unlikely that a catch will fill more than one stall at a time. This is not to say that the circumstance in Naifaru are bleak, it is more a matter of diversification of industry, indeed, the economy and

infrastructure is very strong and with the addition of a new school and hospital the island's prospects are promising.



Naifaru: <http://vevesworld.com/photo/cities/naifaru/05/>

This is all worth mentioning because although the research site is relatively small, it seems to be an accurate representation of the broader gender dimension in the Maldives. Equally as important in having chosen the Maldives as a research site for this topic is that, as will be explained further along, the Maldives is a good example of a fishing dependent nation that has invested in women in the fishery and reaped the benefits.

2. Theoretical Frameworks

Two frameworks were chosen for this research: the Sustainable Livelihoods Approach and a gender framework. These are a natural fit for the research because they cover the dimensions of poverty and gender respectively, but can easily be broadened to include gender in the case of sustainable livelihoods, and poverty in the case of the gender framework.

2.1 Sustainable Livelihoods Approach

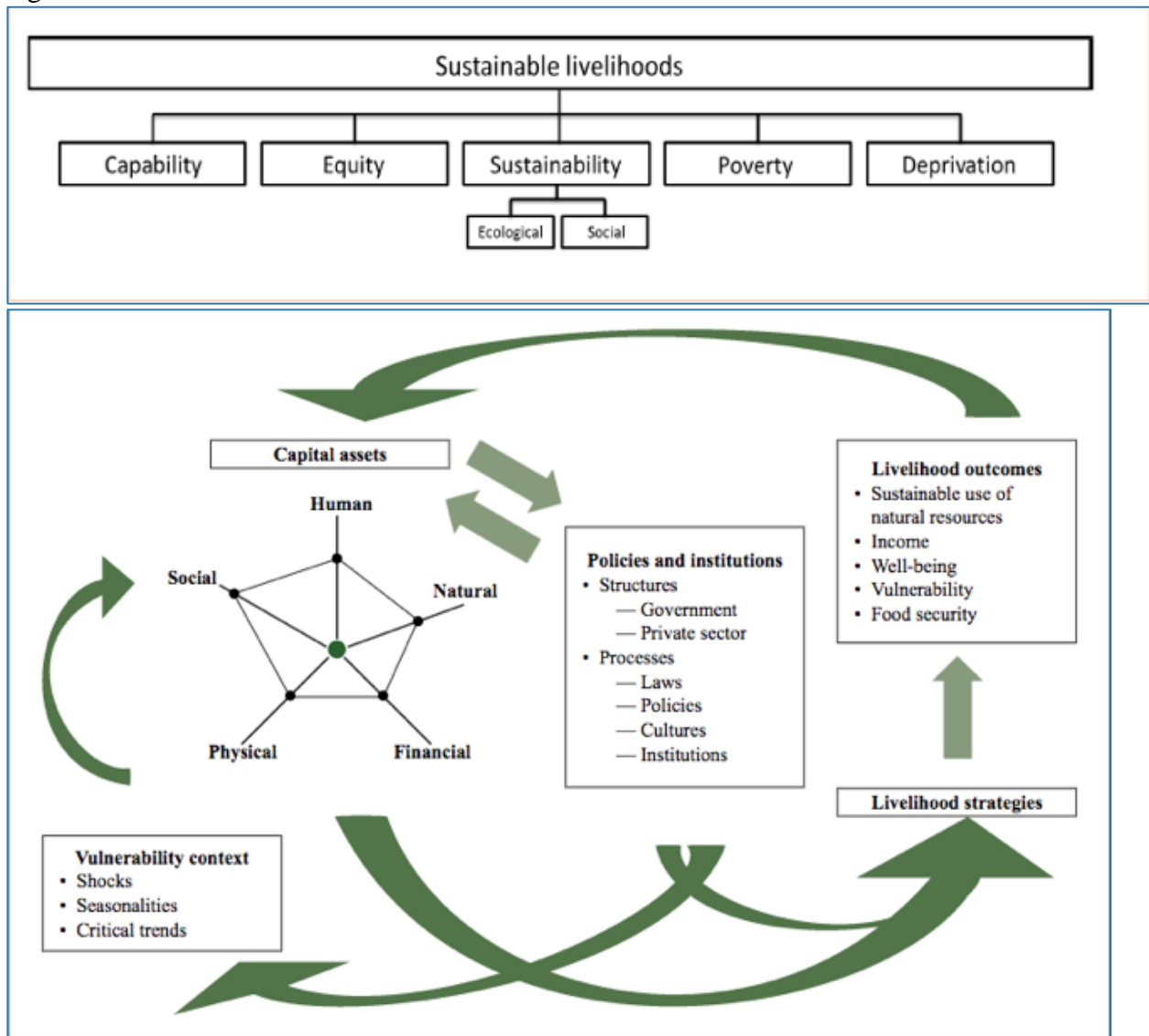
The Sustainable Livelihoods Approach was developed as a planning and management tool for conceptualizing the idea of ‘sustainable livelihoods’, which was first introduced in 1991 by Robert Chambers and Gordon Conway (Knutsson, 2006). A livelihood can be defined simply as any activity that generates the resources needed to survive. Despite the simplicity of this definition, identifying activities that constitute a livelihood is not always as straightforward as it would seem and has quite a range of expressions depending on the area of the world.

The addition of sustainability to the concept of livelihoods adds a bit more complexity to the matter. Chambers and Conway define sustainable livelihoods as:

“capabilities, assets (stores, resources, claims and access) and activities required for a means of living: a livelihood is sustainable which can cope with and recover from stress and shocks, maintain or enhance its capabilities and assets, and provide sustainable livelihood opportunities for the next generation; and which contributes net benefits to other livelihoods at the local and global levels and in the short and longer term” (Chambers and Conway 1991, page 6)

This is a bit of a divergence from the prevailing approach to poverty alleviation which focuses on levels of income as the single measurement for wellbeing. A number of flaws exist in this thinking, chief among them being that with a concentration on income, other and perhaps more pressing aspects of wellbeing are ignored. Put another way, “income as an essentially material definition leaves out non-material aspects of poverty, ignores social goods, and does not account for human diversity in translating income into wellbeing.” (Baker, 2004 p 7)

Figure 2. Sustainable Livelihoods Framework



(Serrat, 2008)

2.1.1 Principles of the sustainable livelihoods approach

The sustainable livelihoods approach is also valuable in its simple yet holistic design. There is not necessarily a beginning or ending point to the framework as each component has influence over the other components, so it is up to the user's discretion in respect to what aspects of poverty and livelihoods they are interested in. The first element of the sustainable livelihoods approach is the vulnerability context. The *vulnerability context* distinguishes the external variabilities that threaten people living in lower-income nations. Outlined below, are the three categories of vulnerability and the subthemes they are based on.

1. Trends

- Population trends (with fish stocks declining, people are migrating in search of work)
- Resource trends (including conflict)
- National/international economic trends; Trends in governance (including politics)
- Technological trends

2. Shocks

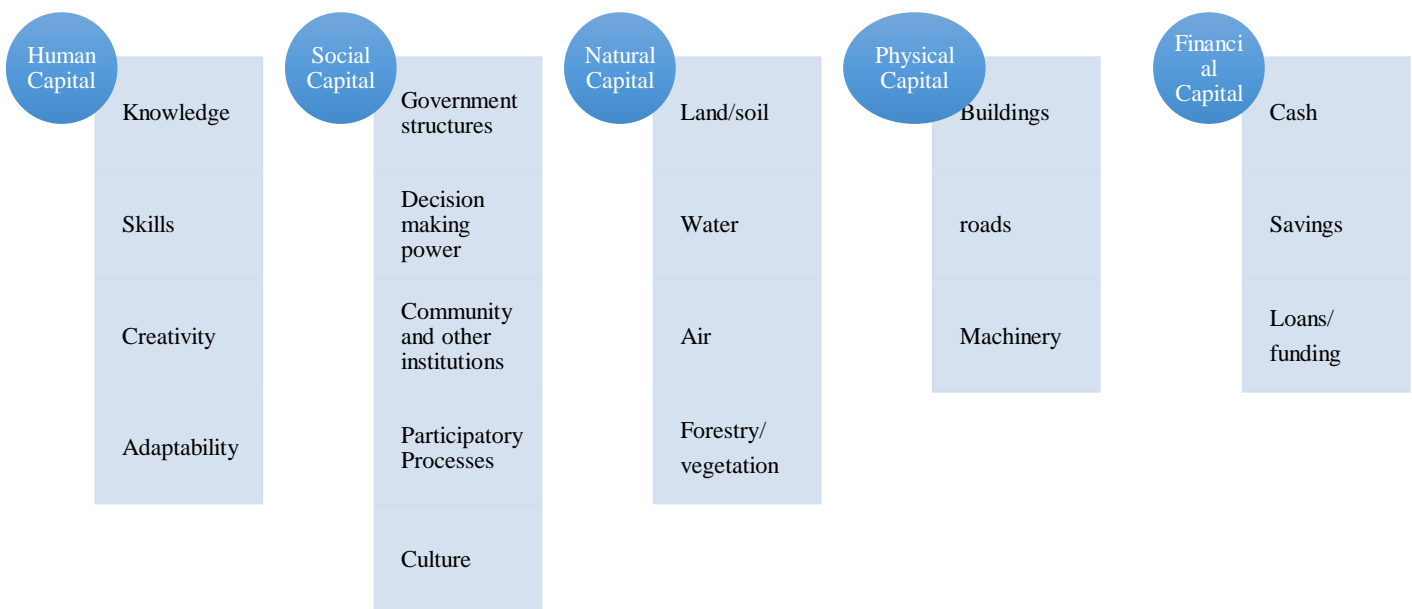
- Human health shocks (disease)
- Natural shocks (natural disaster)
- Economic shocks
- Crop/livestock health shocks
- Conflict

3. Seasonality

- Of prices
- Of production
- Of Health
- Of employment opportunities

(Serrat , 2015)

The next and perhaps central component of the SLF is the *asset pentagon*. The asset pentagon is an important starting point for establishing what resources a community or household has access to, but it is also important to recognize that access to assets is a constantly evolving condition and therefore it is important to think of the pentagon in a temporal context as well (DFID, 1999).



The *Policies and institutions* component of the SLA is where much of the transformation processes occurs. The institutions, organizations, policies and legislation that shape this component have a great deal of bearing on the rest of the framework and particularly the access to assets, but as noted, these policies and institutions can be influenced by capital assets as well. The institutions are the structures designed to make decisions while the processes are the interactions between these structures. These institutions can be as formal as government agencies or as rudimentary as village groups, likewise, structures can range from federal law to religious doctrine. Whichever the case, they have an indelible influence on who has control of what.

The final components of the SLA which could be considered the objectives of the framework are the *livelihood strategies and outcomes*. What livelihood processes emerge as outcomes of the prevailing vulnerability context, access to assets, and influencing political or institutional structures? A further examination of *livelihood strategies*, in regards to women in SSF in LIN, will be made in the discussion section of this paper

The SLA therefore provides another way of looking at poverty and the roots of poverty. It is a bottom up approach that emphasizes work at the community level. The direction of the arrows between the various components of the SLA should not be overlooked, because they demonstrate the relationship of the influences of the components on one another. In this way, the approach is useful because it addresses power relations in communities which influence the access to assets and the vulnerability context.

2.1.2 Women and the vulnerability context

The SLA is an innovative way of looking at poverty and it is equally as useful in approaching the challenges women face in SSF in LIN. As described earlier, the vulnerability context is a crucial component of the SLF in understanding the external forces that threaten marginalized groups' daily lives. It could be argued that few groups are more vulnerable in this context than women in SSF in LIN (Carpenter, 2005). One rather pertinent example supporting this claim are the influences of climate change and overfishing in LIN and the disproportionate impact they have on women over men. As fish stocks decline across the world, men from these communities are leaving their regions in search of work (Avril, 2008). Unfortunately, women often do not have this option because of cultural factors and family responsibilities. Furthermore, with a lack of education it is unreasonable for a woman to expect to find employment outside of their community in a skilled trade (Nash, 1977). Another instance of a woman's vulnerability in SSF in LIN lies again in their lack of access to assets and education. Fishing in LIN is often one

of the more dangerous professions, the equipment, vessels and techniques are often unsafe and there are typically no statutory safety guidelines in LIN, especially for the small-scale sector (ILO, 2004). When fishermen in SSF in LIN are lost at sea, it often leaves their wife or wives in a very difficult position with few options for taking care of their family alone. In general, because women in LIN often lack representation and influence in their communities, their position in the community is precarious. Workplace conditions for women can often be unsafe or abusive and lacking any sort of authority, there is often little they can do to confront this. With the added burden of raising children, it further challenges women in finding fulltime employment or positions with added responsibility. All of these circumstances highlight why it is so important to understand the vulnerability context and what implications it has for women.

2.1.3 Sustainable Livelihoods Approach and the Gender Context in Small-scale Fisheries

The SLA is notable for its efficacy in exposing the roots of poverty in a community, but it can also be adapted to examine specific groups within a community and their particular circumstances of poverty. Such is the case of women in SSF in LIN. The chart below outlines the conditions for women working in SSF in LIN in the SLF based on the SLA.

Vulnerability context: The vulnerability context has already been addressed above, but it is worth reiterating that women are disproportionately vulnerable to trends, shocks and seasonality in LIN (Goh, 2012).

Livelihoods Assets: Assets and access to assets lie at the core of the SLF and are influenced by the vulnerability context and structures and processes equally. Livelihood assets can both increase or detract from one another. As an example, having less physical capital usually increases vulnerability and decreases representation in participation. Conversely, possessing physical capital may mean higher financial capital as physical capital such as farmland can generate income.

- ❖ *Human Capital:* Is an area of strength for women in LIN. The knowledge inferred from their experiences in matters of finances, organization and ecology have applications beyond their immediate function. The problem is, without further education or trainings, these insights remain an unlocked asset. Furthermore, this knowledge is of little use if it does not make it through the proper channels. Until women have full participation in decision making and research, this knowledge may be sub-optimally used.

- ❖ *Social Capital:* May be the greatest strength women possess in SSF in LIN. A few examples have been described already, however, it should be emphasized that one trend that seems to span across SSF in LIN is a strong tradition of maintaining social networks. With such limited representation in formal institutions such as government, women rely heavily on these networks for exchange, communication as well as safety nets, and the safety net quality of these networks can be seen as a direct response to the vulnerability context (source??).
- ❖ *Natural Capital:* Is most closely associate with resources such as land, crops, fish, etc. but this can also refer to the intangible such as climate, vulnerability to natural disasters and so forth (“Sustainable Livelihoods, 1999). This asset is one area in which women are deficient. In most LIN, women have no access to land or many of the other natural resources. However, where there are exceptions to this trend, studies have shown that women often earn higher profits in managing their land than men and this may be due in part to the supportive networks referred to earlier (source?).
- ❖ *Physical Capital:* Varies from natural capital in that they are resources fabricated by humans. These resources may include transportation, storage facilities and other technologies. Here again we see that women lack access to such resources, which sustainability of livelihoods or advancement of a business very difficult (source). In the context of a SSF a physical asset may be for example a cold storage unit, without which, a woman selling fish in the market will either have to sell the fish quicker or use less efficient means of storing the fish, which further complicates food security. Without these physical assets, they further lack access to credit and also have no actual assets to liquidate in emergencies (Kalaf, 2009).
- ❖ *Financial Capital:* This is the access to finances and is distinguished by the amount accessible and the consistency of the cash flow. This is often the most distinguishable feature of inequality between men and women and poverty in general, however as discussed, it is not the best measurement of such conditions. In either case, there is a considerable gap in earnings and savings between men and women. The global average is women earn only 60 to 75 percent of men’s wages (U.N. Facts and Figures. 2016). The numbers become even more discouraging, the lower the income of the nation

Viewed in the context of the SLF it is apparent that perhaps no other dimension has more bearing on inequality than gender. But it is also important to recognize that while women are in many ways at a distinct disadvantage in many areas of the SLF, they do have a number of opportunities and capacities within the SLF so it becomes a question of recognizing the capacities and unlocking their potential.

2.2 Gender research framework

With more and more development agencies and researchers recognizing the need for gender disaggregated data across disciplines, it became apparent that modified or entirely new frameworks would be required. The resulting frameworks vary, depending on a number of factors and the schools of thought they originated in, but generally speaking gender research frameworks, “aim to provide methods by which to gather and use sex-disaggregated and gender-related data and information to inform envelopment interventions at various stages, from project/program conception and design through to evaluation.” (Warren, 2007 p. 187) It is not only about where the differences between men and women lie, but also why they exist in the first place. It is also important to note that like other frameworks, gender research frameworks are only effective if they are incorporated with accompanying frameworks, and should be seen as one tool among others in assessing the wellbeing of a community (Warren, 2007).

Gender research frameworks may initially be easy enough to conceptualize, but as it happens, in practice they can be far less easy to implement. Unlike some frameworks, the first step is to understand why this lens is being adopted in the research (Warren, 2007). Much of this discussion has been outlined above, but it is important to reemphasize the notion that men and women experience livelihoods differently because of their differing positions and roles in society as well as the multidimensionality of a woman’s role in society, dividing time between child rearing, managing the home and their livelihood. Indeed, it is often the case that only in discussions of women’s roles does the family dynamic receive attention in research (Kovalainen, 1988). Understanding why a gender framework is being adopted for a particular study is also important because it is the first step in defining clear objectives for the research, which alone will determine the outcome of the study. As noted earlier, one of the obstacles in compiling gender disaggregated research is a lack of well-trained researchers in the field, which can lead to second-rate results and criticism of this type of research in general. The chart below is in-and-of-itself a framework, but it is also useful in summarizing the major issues addressed in gender research more generally.

Table 5. Gender analysis framework

Category of enquiry	Issues to consider
<p><i>Roles and responsibilities</i></p> <ul style="list-style-type: none"> • What do men and women do? • Where (location/patterns of mobility) • When (daily and seasonal patterns)? 	<ul style="list-style-type: none"> • <i>Productive roles</i> (paid work, self-employment, and subsistence production) • <i>Reproductive roles</i> (domestic work, child care and care of the sick and elderly) • <i>Community participation/self-help</i> (voluntary work for the benefit for the community as a whole) • <i>Community politics</i> (decision-making/representation on behalf of the community as a whole)
<p><i>Assets</i></p> <ul style="list-style-type: none"> • What livelihood assets/opportunities do men and women have access to? • What constraints do they face? 	<ul style="list-style-type: none"> • <i>Human assets</i>: e.g. health services, education • <i>Natural assets</i>: e.g. land, labor • <i>Social assets</i>: e.g. social networks • <i>Physical assets</i>: e.g. IMTs, ICTs • <i>Financial assets</i>: e.g. capital/income, credit
<p><i>Power and decision-making</i></p> <ul style="list-style-type: none"> • What decision-making do men and/or women participate in? • What decision-making do men and women usually control? • What constraints do they face? 	<ul style="list-style-type: none"> • <i>Household level</i>: e.g. decisions over household expenditures • <i>Community</i>: e.g. decisions on the management or community water supply
<p><i>Needs, priorities and perspectives</i></p> <ul style="list-style-type: none"> • What are women's and men's needs and priorities? • What perspective do they have on appropriate and sustainable ways of addressing their needs? 	<p><i>Needs and priorities</i></p> <ul style="list-style-type: none"> • <i>Practical gender needs</i> i.e. in the context of the existing gender roles and resources e.g. more convenient water point to save women time and energy • <i>Strategic gender needs</i> i.e. requiring changes to existing gender roles and resources to create greater equality of opportunity and benefits e.g. increasing women's access to employment on roads • <i>Perspectives on delivery systems</i> – choice of technology, location, cost of services, systems of operation, management and maintenance

(Pasteur, 2002)

2.2.1 Theoretical model of gender research framework

There are a number of useful frameworks for examining the gender dynamics of a livelihood or community, however, these frameworks cannot be used interchangeably as they are designed to study different aspects of gender relationships and produce different results. For example, some frameworks are concerned directly with labor divisions in gender while others are centered around relationships and power structures in communities. Therefore, choosing the proper framework will depend on the circumstances of the research area and more importantly the results the researcher hopes to draw from the study. One of the more notable and one of the first gender oriented frameworks to be designed is known as the Harvard analytical framework (HAF), also known as the gender roles framework or gender analysis framework. Developed in 1985, at the Harvard Institute of International development, the framework centers around differences in livelihoods between men and women, and more importantly, the framework operates on the premise that there is an economic incentive to apportion resources to women (March et. al., 1999). This framework is applicable to this specific research project because it is a mapping exercise with the aim being to identify the roles and resources of men and women respectively. The framework is separated into the following four tools.

Tool 1 Activity profile: This tool is split between productive and reproductive activities and who is doing them. The chart below is an example of how a researcher may collect data for the activity profile.

Tool 2 The access and control profile: Similar to the access to assets component of the SLF, the access and control profile delineates who has access to resources and who has control of the benefits of these resources (Candida et. al., 1999). One distinction HAF makes is that access does not mean the same thing as control. Women may have access to an area of land for a fee and be permitted to grow crops, but ultimately, the benefits of that area of land will go to the man or person who owns it. This is a common situation for women to be in and is a contributing factor to the vulnerability context.

Tool 3 Influencing factors:

The influencing factors can be best associated with the institutions and processes component of the SLF in that it is aimed to identify the factors that influence the disparity in access and control activity profiles between men and women and where the pressures and opportunities exist between.

Tool 4 Checklist for project cycle analysis

The final tool of HAF is based on the collected information from tools 1-3 and it is a set of questions that are used to evaluate the effectiveness and appropriateness of intervention measures or programs from a gender perspective. The questions are assigned to answer questions of the gender dimension at the four main stages of the project cycle: project identification, project design, project implementation and project evaluation. Below is an outline of the four stages and the sub-groupings.

I.	PROJECTS IDENTIFICATION Assessing women's needs Defining general project objectives Identifying possible negative effects
II.	PROJECT DESIGN Project impact on women's activities Project impact on women's access and control
III.	PROJECT IMPLEMENTATION Personal Organizational structures Operations and logistics Finances Flexibility
IV.	PROJECT EVALUATION Data requirements Data collection and analysis

There are striking similarities between HAF and the SLF and while their ultimate goals may differ, they can be used in support of one another. While HAF is dedicated to revealing the roots of gender disparities in a community, it is conceivable that in the process it will provide insight into the roots of poverty which is the objective of the SLF. Likewise, the SLF can easily be adjusted to examine some of the

issues women in SSF in LIN face.

3. Results

The results of this research have confirmed many prior assertions of gender research in SSF and also present strong evidence for the opportunities for women in SSF in the SLF context. The results will be presented in the following order. First, I will identify the contributions of women to the fishing supply chain in the Maldives. I will then present some of the emerging, women led initiatives, to demonstrate themes discussed later in my discussion. Many of the results discussed here are related to ideas discussed and issues gleaned through my internship.

3.1 Women in the fishery supply chain in the Maldives

The composition of the fish supply chain in the Maldives today, is much different from what it was some fifty years ago. Women still dominate the fish processing sector, but what has changed, is the diversity of roles women now occupy at processing centers in the Maldives. Until recently there were no women in positions higher than the cutting floor. Today however, the number of women, in managerial positions, at these plants is almost equal to that of men (see Table. 6 for a supply chain schematic).

Women are engaged in fishing and harvesting as well. While tuna fishing crews are still made up entirely of men, some women fish from shore, harvest species from the nearshore reefs and even do night fishing at sea. While this activity is by no means discouraged it has not been fully embraced or recognized in the Maldives and consequently, the implications of this activity remain unknown.

In addition, women have a great deal of association with fish, once it has reached the islands. Not only do women make up the majority of employees at the fish processing plants, women are also responsible for selling fish in markets and shops and purchasing and preparing fish for household consumption. This gives women in the Maldives an unique understanding of the quality and market conditions of fish and most women can describe the present state of a particular species as well as prior trends in the price, quality, accessibility, etc. of a species.

Women are present in many other capacities along the fishery supply chain in the Maldives and some of these roles are better understood than others. For example, it is not

uncommon for fishing crews to venture far from their home island in search of fish schools and this may require stopping at another island for repair or fuel. Women will cook, clean and provide other hospitality services to these visiting crews, which is never quantified in research, but obviously is an indispensable role. The point here being that, whether it is a more advanced role like management or a more traditional role like providing hospitality for visiting fishing crews, women are fixtures throughout the supply chain, and their knowledge of the fishery and contribution to the fishery could have many implications for policy decisions if adequately understood and better utilized.

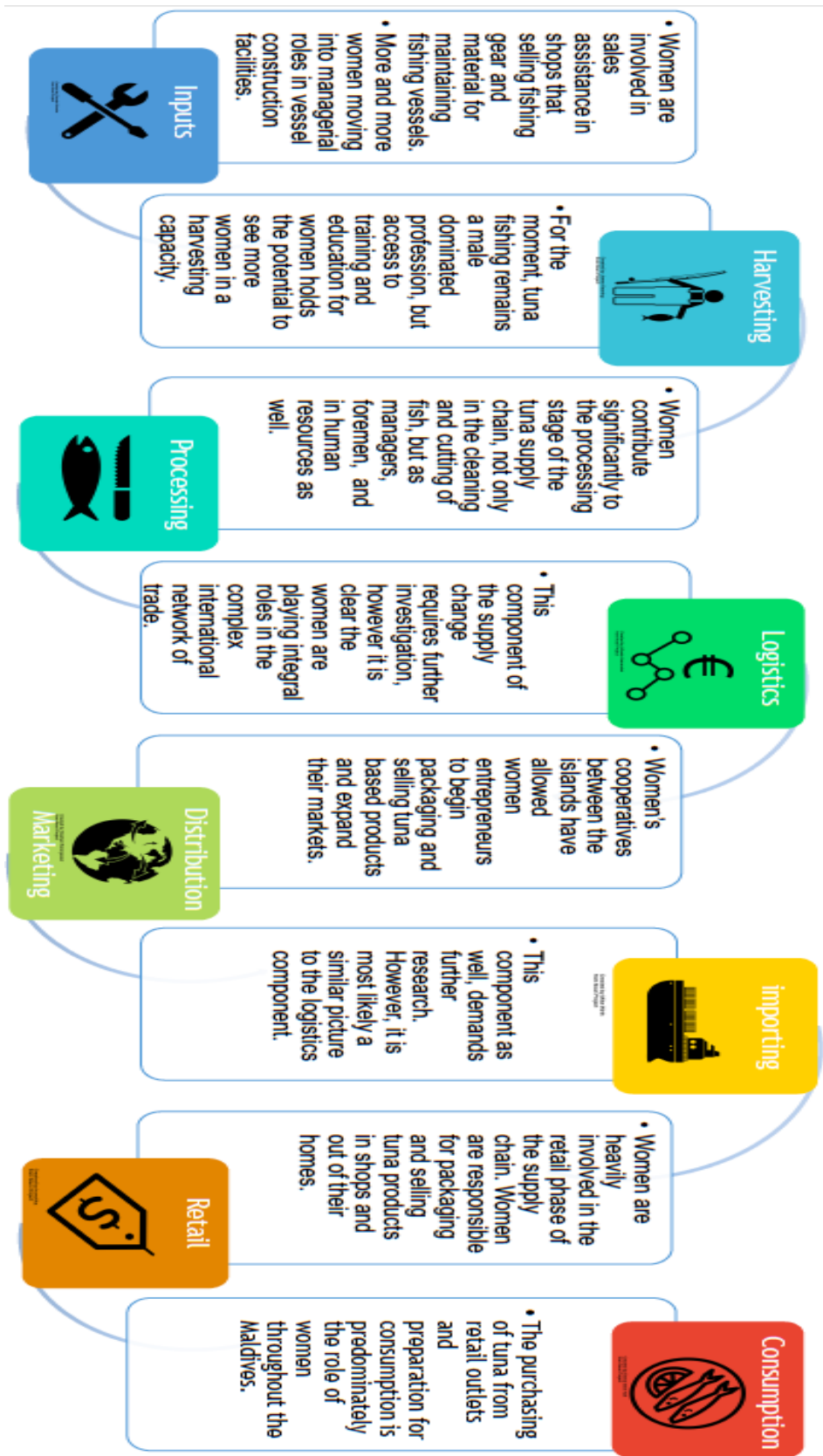


Table 6. Women in the fishery supply chain in the Maldives. <https://thenounproject.com>

These roles are vital to the fishery supply chain in the Maldives and cannot be undervalued. However, there are other emerging trends specific to women working in fisheries in the Maldives, that are wholly initiated by women, that hold great potential for fisheries in the Maldives and equally serve to exemplify the benefits of enhancing the status and roles of women in SSF.

3.2 Cooperatives

In addition to identifying broadly the particular roles of women in the supply chain, it is important to also take into consideration bottom-up women's initiatives to understand how they have emerged and how they interact with or impact women's livelihood outcomes. Women's cooperatives have existed in the Maldives for centuries.

Traditionally, they have served as communication and support groups for women in and between islands. These cooperatives would change in composition and function depending on the need or societal trends of the Maldives at the time. While these groups were effective in the capacity they filled, they suffered from a lack of organization and recognition as a formal



association. A few years ago, a group of women representing one of these cooperatives approached representatives from one of the largest tuna exporting corporations in the islands and made a proposal for a loan. With that single loan, the women were able to elevate the cooperative to an entirely new status. With the money, they were able to buy office and storage space, improve the quality of the packaging for their products, and even do some marketing. The result of these improvements is now a well-organized and functioning, cooperative. Women from the community are encouraged to send in samples of the tuna based products they make at home and if their product is of high enough quality they enter into an agreement for up to one year with the cooperative. The advantage of being a part of the cooperative is that these women now have a guaranteed income, provided they can meet the required amount of product, for a determined time period, which translates into livelihood security. The other advantage of being part of the cooperative is that these women who may only have had access to a local market on their island, now can access new markets through the distribution abilities of the cooperative.

These transformations in the women's cooperative were only the beginning. The cooperative has plans to hire fulltime employees and expand its market, possibly even to begin exporting products. But the most impressive aspiration of the cooperative and the one that speaks to the theme of this paper and that is how the cooperative hopes to provide for the community apart from the economic boost of a new business. Keeping with its socially minded roots, the cooperative is committed to continuing to provide support however possible to its members when they require it. The cooperative has also provided funding for two of its members to travel to conferences outside of the Maldives to encourage



entrepreneurship among their member. Additionally, there is talk among the leaders of the cooperative to eventually start a scholarship for female members. These commitments and goals for the community by a small group of women based on one loan is precisely what the multiplier effect, which will be discussed further along, is based on.

3.3 Fisherman's Association of Naifaru

Despite its name, ten out of the eleven members of the Fisherman's Association of Naifaru (FAN) are women and it also happened to be founded by a group of women. Some years ago, a group of women on the island of Naifaru wanted to build a more updated park for the children in the community. To their dismay, they discovered that they could not obtain the permit or funding for such a park and that they would need to be a registered group or committee in the Maldives. In response to this, the women created FAN and register it with the proper authorities and eventually they were able to get the park built. Following the construction of the park however, FAN remained together and adapted to a new role in the community. Today, FAN acts in a liaison capacity between fishermen in the atoll and the consulate. This function became a necessity because for fishermen who are at sea for long periods of time, when there is an issue at home or conflict with the consulate, it is not always possible for them to be present to represent themselves. The members of FAN are, for the most part, teachers or else consistently on the island and therefore are able to be a reliable representative for fishermen. Many of these women have no formal experience in this role, but have remarked that with their years of teaching they are well suited for this work and have adapted easily.

All of the elements of FAN’s evolution further highlight the strengths and opportunities for women in SSF in LIN. Out of a desire to improve their community, a group of women formed a committee, and in the process, they were able to find and adapt to a new role in the community, and quite like the cooperative, FAN also has socially minded ambitions for the group.

3.4 Assessing the Maldives through the Harvard Analytical tool

Activities	Women/girls	Men/boys
Productive Activities Fishing: Activity 1 Activity 2 Income generating: Activity 1 Activity 2 Employment: Activity 1 Activity 2 Other:	<i>Fishing:</i> 1. Women in the Maldives participate in nearshore fishing and a small group fish from boats during the night <i>Income generating:</i> 1. Women sell fish based snacks in bulk to individuals and organizations alike. <i>Employment:</i> 1. With men away at sea for long periods of time, women are employed in areas that support fishing and the community in their absence. <i>Other:</i> 1. Women support fishing through groups like fisherman’s associations	<i>Fishing:</i> 1. Men are responsible for most of the fishing done at sea as well as the collection of various reef species 2. Men do most of the fishing vessel and fishing gear manufacturing. <i>Income generating:</i> 1. Men take in a significant amount of income from fishing and other activities that contribute to fishing, including vessel manufacturing and repairs.
Reproductive Activities Water related: Activity 1 Activity 2 Food preparation: Activity 1 Activity 2 Childcare: Cleaning and repairs: Market related:	<i>Food Production:</i> 1. Women are responsible for purchasing transporting food. 2. Women oversee food preparation. <i>Childcare:</i> 1. Women are responsible for much of the childcare, and make up the majority of primary and secondary teachers <i>Cleaning and repairs:</i> 1. Women do most of the household cleaning	<i>Food Preparation</i> 1. Unless they are living alone, men do not typically cook <i>Childcare</i> 1. Men do not do as much childcare until the child is of a certain age. If the child is a male, the father may take the boy as an apprentice <i>Cleaning and repairs:</i> 1. Men do very little cleaning around the house but are responsible for repair.

(Overholt et. al., 1985)

	Access	Control
Resources Land Equipment Labour Cash Education/training	Men: <ul style="list-style-type: none"> - Full access to land - Full access to equipment - Full access to labour - Full access to cash - Full access to education Women: <ul style="list-style-type: none"> - Some access to agricultural land - Some access to equipment needed for livelihoods - Increasing access to labor - Increasing access to capital - Increasing access to education 	Men: <ul style="list-style-type: none"> - Men control land, equipment, labor, cash and education Women: <ul style="list-style-type: none"> - Women have very little control over such property as land and equipment. However, as this more female entrepreneurs emerge in the Maldives, women are gaining control of such resources.
Benefits Outside income Asset Ownership Basic needs Political power/prestige	Men: <ul style="list-style-type: none"> - Men have access to a variety of outside income, asset ownership, basic needs, and hold most political positions Women: <ul style="list-style-type: none"> - With more female entrepreneurs, access to outside income is increasing - Women do have access to basic needs - Although only recent, women have been elected into very high offices in the Maldives 	Men: <ul style="list-style-type: none"> - Men control most outside income, ownership, basic needs and political power Women: <ul style="list-style-type: none"> - Women are gaining control over outside income, especially as entrepreneurs - Women are finding more and more control over assets and basic needs - While women have earned seats in the government, it remains to be seen how much control they will have in these positions.

Influencing Factors	Pressures	Opportunities
Community norms and social hierarchy Demographic factors Institutional structures Economic factors Political factors (Overholt et. al., 1985)	<ul style="list-style-type: none"> - The threat of a more radical wave of Islam, threatens the gains women have made. This cultural shift would put pressure on institutional, economic and political sectors. - While women living on more developed atolls enjoy more access to educational and employment opportunities, women on lower-income atolls still face cultural and demographic barriers to such opportunities 	<ul style="list-style-type: none"> - The federal government has embraced gender equity across the nation and developed programs to support this endeavor - With a rising economy, there is the chance that more money can be invested into programs that support women fishery livelihoods - Globalization has been a driving force for the advancement of status of women in the Maldives - Many NGO's operating in the Maldives have made women's equality part of their agendas

3.4 Understanding the Maldives' Transformation

The accounts of FAN and the cooperatives operating in the Maldives, along with rapidly expanding opportunities for women along the supply chain is certainly a promising trend, and it raises the question of why has the Maldives gone in this direction, while other countries with similar geographic, political, cultural, and economic characteristics have not? The answer is complex, but underlying this transformation are the cascading effects of a very few and relatively conspicuous decisions made unitedly by Maldivian society.

Along with the rapid and prolific development of the Maldives, there has been an equal undercurrent of social change as well, particularly in relation to women's empowerment in the community and at work. There are many factors influencing this change, but it has been a major encouragement that the government of the Maldives has made this issue a fundamental objective of their legislation. The excerpt below is from a country report written in 2001 entitled, "Women in the Republic of Maldives."

The Framework for Action: Addressing the Strategic Needs of Women

To address the strategic needs of women four priority objectives are to

- i) Strengthen MWASS;
- ii) Improve women's decision-making role in administration and island management
- iii) Improve the legal position of women with heightened legal literacy among women; and
- iv) Enhance the role of nongovernment organizations to give visibility to gender inequalities and assist in improving the status of women

The Framework for Action: Addressing the Practical Needs of Women

Four priority objectives to address the practical needs of women are:

- i) Increased voice and choice for women in reproductive health decisions, greater participation and focus on reproductive health of males, and education in child care practices for parents
- ii) Increased access to higher education;
- iii) Increased access to market demand-oriented vocational training; and
- iv) Increased employment opportunities in growth sectors

Campaigns such as these, undertaken by the Maldivian government, appear to be more than just superficial gestures. Improving the quality of life and access to education and employment appears to be present at every level of society in the Maldives.

The impact of access to technology, social networking, and mass media have also been a driver of change for the status and opportunities for women in the Maldives. When asked why

such changes have come about and why they have been so readily accepted? One of the most common answers is something along the lines of, observing the state of the developed world and not wishing to be left behind.

The opportunity for women to pursue education beyond primary school has also factored heavily into the transformation that has occurred for women in the Maldives including those working in the fishing industry. For many generations, women were not allowed to continue in school beyond primary school and this of course afforded very little opportunity to seek any advanced or skilled labor. With the transition in government came a lift on this restriction for women. From that point on, the level of education and the number of women seeking higher education has continued to increase, with each subsequent generation. With education and skills and experience women also gained access to new assets and new opportunities.

4. Discussion

Before diving into any discussion on this topic, it is important to first make a clarification. The words equality and equity have been used frequently throughout this paper, but it is important to clarify a very important distinction between equity and equality. Equality is treating everyone the same and giving everyone the same opportunities. Equity is more about giving fair recognition and treating fairly everyone's contribution despite being different. This is an important distinction to understand when discussing women's empowerment. Although both terms are used in this paper, it is equity that is being supported here. What does that mean for women working in SSF in LIN? It means recognizing the diverse roles and the impact women have in SSF and matching wages, resources, trainings, etc. accordingly. It also means that in recognizing the equal and in some cases, larger contribution women have in SSF to men, women deserve to share in the decision making process. What it does not necessarily mean is giving men and women the same jobs or asking gender roles and cultural roles to completely change. In countries where men go to sea to fish and women are responsible for processing and selling the fish, the debate is not necessarily do women deserve the opportunity to own vessels and go to sea but rather, are they receiving a wage that reflect the amount of work they are doing and are they given fair representation during the decision making process.

The complexity of the gender dimension further confounds the topic of measuring transformative change this is because gender relations are so deeply engrained in society and can vary substantially between cultures, it is very difficult to develop intervention strategies that will fit each culture equally. Creating, for example, ecosystem conservation measures for SSF in LIN is going to be somewhat easier because environmental conservation is not necessarily going to be part of the broader cultural identity as gender relations. Environmental conservation measures are less likely to fly in the face of cultural norms or religious beliefs than changing gender relations. In the same sense, measuring the outcomes of strategies aimed at gender equity in fisheries is more difficult because although it is the hope that by changing a woman's status in their livelihood would resonate through other aspects of society, this may not be the case.

4.1 In roads for women in the sustainable livelihoods approach

The results of this study and similar studies provide insight and evidence of the enormous contribution as well as opportunities women are having in SSF in LIN. The task then becomes, how this evidence can be used in gender transformative change, and this is where the sustainable livelihoods approach becomes so useful.

What section 2.1 of this paper emphasizes is that women are both highly disadvantaged in SSF in LIN, but simultaneously are in a position with great potential. On one hand, because they have little access to physical assets and the added responsibility of child rearing, women are highly vulnerable to shocks and trends. On the other hand, women have access to very important assets that provide a certain barrier to these shocks, such as human and social capacity.

The first and earliest step is to provide quality education to girls past primary school. This has been written about exhaustively in development work but when one reconsiders the economic evidence from section 3.2 of the benefits of keeping girls in school, the extenuating influence to SSF in LIN, which routinely suffer from a lack of education. Similarly, continued trainings offered by government agencies and NGO's need to be more geared towards enhancing the occupations of women in SSF. Presently, many trainings and improvements to SSF are more focused on technology upgrades and fishing techniques rather than entrepreneurship and other topics that would benefit the roles of women.

Another immediate step that needs to be taken is improving reproductive health, namely, family planning services. In LIN especially, the complications incurred from a lack of adequate health services and family planning take an enormous toll on women and consequently their livelihoods. Pregnancy and labor are two of the most dangerous times women in LIN will face, therefore, it behooves any development initiative to first establish a health population before attempting to effect change. There is little sense in trying to establish livelihood sustainability in among a population that regularly cannot work at full performance.

Investing in women has proven, across livelihood sectors, to be one of the most secure and lucrative strategies in international development. Given more control over finances and physical capital, women have proven to be more resourceful with such advantages and the benefits to the greater community increase as well. Moreover, public and private development organizations need to begin gearing trainings and technical guidance towards women and towards the roles that they play specifically. As an example, in consideration of the roles women play in markets and their experience with finances, contributing to this understanding through instructions on budgeting, accounting, general business and so forth would likely be a useful investment.

Finally, women need to be present at every level of planning in SSF management. Making sound management decisions means having all of the data and perspectives at hand before reaching a decision. In the case of SSF in LIN, this is not possible if women are not

present because not only do they represent at least half of the people employed in these fisheries, they also have unique perspectives from men and represent.

The purpose of these recommendations is to follow the SLF to achieve sustainable livelihood outcome. These recommendations increase women's access to *assets* as well as their participation in *institutions and processes*, thereby decreasing their position in the vulnerability context.

4.2 Understanding the broader gender dynamic of culture

The results and recommendations drawn from this research and similar studies may seem very apparent and attainable on the surface, but this is oversimplifying the very complex dimension of gender in culture. There may be no other dimension so deeply engrained in society than gender and gender relations. What makes this element of society so influential is that it is the likely result of the entire history of culture, religion, and humanity itself. Furthermore, gender identity and relationships means different things to different cultures. Therefore, any research or approach to gender structure transformation must account for these sizeable variation in experiences and the dynamics of gender in culture throughout the entire processes and that includes research.

Gender inequality and an indifference to this dimension is not just an issue that needs to be explored in SSF in LIN, it is an issue that pervades fisheries research itself. This would certainly account for part of the reason there is so little data and work being done towards exploring and enhancing the roles of women in SSF in LIN. So when we talk about changing perceptions about the roles and opportunities for women in fisheries and facilitating trainings, this is required by researchers and policy makers before it can be applied to SSF in LIN.

The complexity of gender dimension and gender relations of culture further demonstrate the need to seek equity rather than equality. Presenting this issue in the context of the multiplier effect or SLF and as economic and environmental value is far more efficient than trying to disrupt culture norms.

4.3 The multiplier effect

The multiplier effect was originally a term in the field of economics used to describe an increase in final income due to an increased demand or spending. The social multiplier effect follows similar principles, essentially, “a change in fundamentals has a direct effect on behavior and an indirect effect on the same sign. Each person's actions change not only because of the direct change in fundamentals, but also because of the change in the behavior of their peers.”

(Scheinman, 2008) In this way, the multiplier effect can also be used to describe the impact women can and do have in SSF communities. The formula below is useful in conceptualizing the multiplier effect as it relates to women:

Empowered women = empowered families and communities x future generations

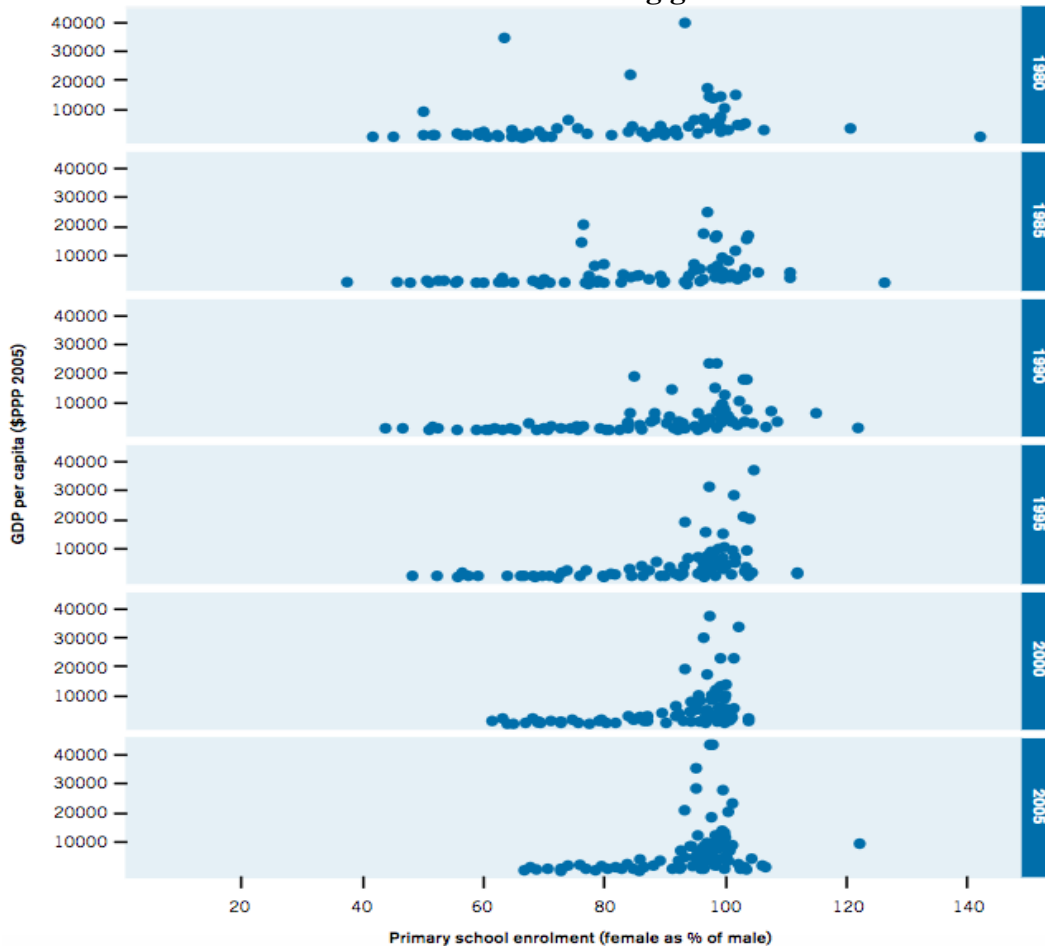
Outcome: access to medical care, access to justice, property ownership, credit, training and employment, political voice, women owned enterprises, control of their own fertility, increased human capital, decreased MMR, decreased IMR and decreased disease burden

Impact: long term sustainable development (MDGs attainment) (Aladesanmi, 2013)

The Multiplier effect of women's engagement is so important because it is a further testament to the idea that the empowerment of women in sectors such as fisheries is not just a matter of advancing the wellbeing of women, which alone would be laudable, but it shows that this has untold benefits for the entire community and beyond. And the statistics and accounts below support this.

- “Investment in gender equality yield the highest returns of all development investments.” (OECD, 2012)
- Increasing women and girls’ education contributes to higher economic growth. Increased educational attainment accounts for about 50 per cent of the economic growth in OECD countries over the past 50 years, of which over half is due to girls having had access to higher levels of education and achieving greater equality in the number of years spent in education between men and women. (U.N, Facts and Figures. 2016)
- “Women usually invest a higher proportion of their earnings in their families and communities than men.” (Aladesanmi, 2013)
 - “A study in Brazil showed that the likelihood of a child’s survival increased by 20% when the mother controlled household income.” (extracted from former World Bank President Zoellick’s speech at the MDG3 conference, Copenhagen, 25 March, 2010.)
- Women typically earn more than men with every year of education, as Table 7 indicates:

Table 7. Effects of educating girl on GDP



- Studies have shown that not only are women far more likely to repay a loan than men, but that the benefits to the community from the use of this loan is far greater than men. (Esty, 2014)
 - In Bangladesh, 81% of women to 74% of males encountered no repayment problems when they received a loan from the bank (Jaim, Hossain, 2011)

The multidimensional role of women as the primary caregivers of children and their work in the fishery is both a barrier and an opportunity. A complication because having to look after children, especially infants, while performing manual labor adds a multitude of burdens. An opportunity because with their constant attention to their children, they are in a position to have a more positive cascading effect on future generations. Women in SSF in LIN have also been shown to be more invested in their communities and when given the opportunity, women are more likely to reinvest in their communities. The data also shows that communities stand to benefit more when a woman receives training or further education than men.

These statistics and accounts are general of women in LIN but if it can be assumed that the effect is similar for women in SSF specifically. What the multiplier effect stresses therefore is that studying and addressing the inequalities between men and women becomes a challenge that must be taken up by not only women's rights groups, but across development and management organizations. Society as a whole is better off when the role of women is understood, and when women's agency in decision-making and livelihood outcomes is recognized and supported.

5. Limitations of the study

The limitations of this study concerning data, methodology and validation and framework are outlined in this section and the impacts they may have had on the results of this paper.

5.1 Data

I was unfortunately unable to secure ethics approval from Dalhousie University to conduct interviews in the Maldives. I was, however, involved in participant observation throughout the tenure of my internship with the International Pole and Line Foundation (IPNLF), and was able to present my findings from the internship in a report (forthcoming) and in a Gender in Fisheries and Aquaculture conference in Bangkok. I was able to draw on informal interactions with people in the Maldives for general perceptions and to help give direction to my other research.

5.2 Methodology and validation

The results presented here rely on only participant observation in order to understand the role of women in fishing and fishing communities in the Maldives. These observations are understood in the context of the livelihoods and gender frameworks, for which I relied heavily on literature. It was an extremely disappointing dilemma to face as a researcher to be so well-positioned to conduct interviews in the Maldives during my internship tenure, but to be unable to do so because of a lack of ethics approval.

5.3 Scope

I was very fortunate to be able to conduct my Masters internship in the Maldives and have the support of such a superb organization. However, as the scope of this paper is global in scale, it is admittedly a bit inadequate to only have done research on one small island nation, in a remote area of the world. However, I do believe that the Maldives is an accurate representation the larger issues facing women in SSF in LIN.

6. Conclusions

As pressures continue to mount for fisheries worldwide there has been increased efforts in managing fisheries and a reevaluation of existing management strategies that appear to not be achieving their goals. SSF have been one sector of fisheries that have not received efficient attention for some time. This is most likely because SSF are most prevalent in LIN and therefore, it is that belief of some researchers that like other economic sectors in these countries, SSF are behind and a symptom of the overall conditions of poverty (Béné et. al., 2007). However, more and more evidence is showing that there is a great deal of benefits in SSF and even more potential. Furthermore, as a shift towards a more holistic approach to management and research continues to emerge, researchers and managers are beginning to take a closer look at the lesser observed dimensions that influence SSF. One of these dimensions that has an unmistakable influence on fisheries is the gender component. Despite having an equal, if not greater, role in SSF than men, women remain marginalized by management and even research in LIN (Harper et. al., 2013). As evidenced by the Maldives example, women participate heavily throughout the supply chain in SSF, there are also numerous examples of the potential women have for enhancing SSF if given the resources and recognition (Harper et. al., 2013). This is not, as many assume, a question of achieving equality or women's empowerment in SSF, it is a matter of having all of the data and making sure that those participating in SSF are recognized and adequately represented in decision making. It is incumbent upon researchers and policy makers alike to give the gender dimension its due attention if there is any hope for making positive and genuine reform in the management of SSF in LIN.

The SLF framework proved to be an exceptional tool for approaching the challenges and opportunities facing women in SSF in LIN. As illustrated earlier, researching aspects of gender relations in livelihoods can be very difficult because it is a dimension that is so entrenched within culture. The SLF is effective in this areas because it examines the roots of poverty, access to sustainable livelihoods as well as power relations, in this case, between men and women, concurrently. The SLF also presents an opportunity to identify why so many women remain in such a vulnerable position and more importantly, where, along the SSF, effecting changing would create more access for women and thus more opportunity and security.

6.1 Recommendations for further research

The fact of the matter is that one of the underlying issues when discussing women in SSF in LIN, as demonstrated throughout this paper, is an overall lack of data and specifically quantitative data. Women participate in fisheries supply chains but what is the magnitude of that participation? Quantitative research is vital in strengthening the results brought forth by qualitative studies and especially when it comes to policy reform. The results provided in this paper are important, but they are quite broad and in many cases qualitative, and serve mostly to demonstrate that this is an area of concern worth pursuing. The goal now must be to collect country specific data and develop indicators for wellbeing, indicators which explicitly include gender (Donahoe, 1999).

Continued research into the roles and responsibilities of women in SSF in LIN should also be a priority. Although this paper touches on many of the unobserved roles and responsibilities of women, many more remain to be uncovered. In this process, it is probable that further layers of SSF will be uncovered to give a clearer picture of what shapes these fisheries as well as new opportunities.

References

- Aladesanmi, Lola. "The multiplier effect of investing in gender equality" CARMA. <http://www.carmma.org/update/multiplier-effect-investing-gender-equality-and-women-empowerment>. 30, January, 2013
- Andrew, Neil L., et al. "Diagnosis and management of small-scale fisheries in developing countries." *Fish and Fisheries* 8.3 (2007): 227-240.
- Ashley, John Myrick. *Food Security in the Developing World*. Amsterdam: Elsevier, 2016. Print.
- Avril, Hilaire. TRADE-WEST AFRICA: Overfishing Linked to Food Crisis, Migration. Inter Press Service News Agency. Aug 11, 2008. Accessed Nov 17, 2006.
- Baker Collins, S. (2004). Sustainable Livelihoods: A Contribution to our Understanding of Poverty. *Canadian Review of Social Policy* 54, pp. 1-17.
- Béné, C. *Small-scale fisheries: assessing their contribution to rural livelihoods* in developing countries. FAO Fisheries Circular. No. 1008. Rome, FAO. 2006. 46p
- Béné, Christophe, G. Macfadyen, and E. H. Allison. *Increasing the Contribution of Small-scale Fisheries to Poverty Alleviation and Food Security*. Rome: Food and Agriculture Organization of the United Nations, 2007. Print.
- Bennett, Elizabeth. "Gender, fisheries and development." *Marine policy* 29.5 (2005): 451-459.
- Black, Richard, et al. "The effect of environmental change on human migration." *Global Environmental Change* 21 (2011): S3-S11.
- Berkes, Fikret. *Managing small-scale fisheries: alternative directions and methods*. IDRC, 2001.
- Buvinic, Mayra, Rebecca Furst-Nichols, and Gayatri Koolwal. "Mapping gender data gaps." (2014).
- R. Chambers & G. Conway, 1992, Sustainable rural livelihoods: practical concepts for the 21st century. IDS Discussion Paper No. 296. Brighton, IDS, p. 7 -8
- Carpenter, Charli R. "'Women, children and other vulnerable groups': gender, strategic frames and the protection of civilians as a transnational issue." *International Studies Quarterly* 49.2 (2005): 295-334.
- Cinner, Joshua E., et al. "Comanagement of coral reef social-ecological systems." *Proceedings of the National Academy of Sciences* 109.14 (2012): 5219-5222.

- Dayal, Rekha, Didi, S.M. Oh, Soo-Nam. "Women in the Republic of Maldives." Country Briefing Paper. Office of Environment and social Development. April, 2001
- DFID. Sustainable Livelihoods Framework Guidance Sheet.", Department of International Development UK. April, 1999..
- Department of National Planning. Millennium Development Goals, Maldives Country Report 2010. Department of National Planning. 2010.
- Denton, Fatma. "Climate change vulnerability, impacts, and adaptation: why does gender matter?." *Gender & Development* 10.2 (2002): 10-20.
- Donahoe, Debra Anne. "Measuring women's work in developing countries." *Population and Development Review* 25.3 (1999): 543-576.
- Eriksson, Britas Klemens, et al. "Effects of altered offshore food webs on coastal ecosystems emphasize the need for cross-ecosystem management." *Ambio* 40.7 (2011): 786-797.
- Esty, Katherine. 5 Reasons Why Muhammed Yunus Focuses on Lending to Women. Bill and Melinda Gates Foundation. impatientoptimists.org 2014.
- FAO/Advisory Committee on Fisheries Research. 2004. *Report of the second session of the Working Party on Small-scale Fisheries. Bangkok, Thailand, 18 – 21 November 2003.* FAO Fisheries Report. No. 735 Rome, FAO. 21 pp.
- FAO. FAO 2012: The state of world fisheries and aquaculture. FAO. Rome. 2012.
- FAO. FAO Fisheries & Aquaculture - People and Communities. *FAO Fisheries & Aquaculture - People and Communities.* Food and Agriculture Organization, n.d. Web. 14 Nov. 2016.
- FAO. Voluntary Guidelines for Securing Sustainable Small-Scale Fisheries." Food and Agriculture Organization of the United Nations. Rome. 2015. Pages
- Federal Ministry for Economic Cooperation and Development (FMECD). Gender and fisheries & Aquaculture. Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH. Feb. 2013.
- Fulu, Emma. "The Maldives study on women's health and life experiences: Initial results on prevalence, health outcomes and women's responses to violence. 2007." *Ministry of gender and Family: Malé, Maldives.*
- Goh, Amelia HX. "A literature review of the gender-differentiated impacts of climate change on women's and men's assets and well-being in developing countries." *International Food Policy Research Institute, CAPRI Work* (2012).

Harper, Sarah, et al. "Women and fisheries: Contribution to food security and local economies." *Marine Policy* 39 (2013): 56-63.

Holland, Jason, Alice Miller, Dr., and Juliette Tunstall. "New IPNLF Film: Women at the Water-Front." *International Pole and Line Foundation*. International Pole and Line Foundation, 2 Feb. 2016. Web. 30 Oct. 2016.

ICTSD. *Agreement Reached on Weekend Outcome Text as Leaders Arrive for Rio Summit*. International Centre for Trade and Sustainable Development". *Ictsd.org*. 2014-07-15. Retrieved 2016-08-09.

Jacquet, Jennifer, and Daniel Pauly. "Funding priorities: big barriers to small-scale fisheries." *Conservation Biology* 22.4 (2008): 832-835.

Jaim, W. M. H., and Mahabub Hossain. "Women's participation in agriculture in Bangladesh 1988-2008: Changes and determinants." *preconference event on Dynamics of Rural Livelihoods and Poverty in South Asia, 7th Asian Society of Agricultural Economists (ASAE) International Conference, Hanoi, Vietnam*. 2011.

Khalaf, M. *Women's Control Over Economic Resources and Access to Financial Resources*. Vol. 9. United Nations Publications, 2009.

Kawulich, Barbara B. "Participant observation as a data collection method." *Forum Qualitative Sozialforschung/Forum: Qualitative Social Research*. Vol. 6. No. 2. 2005.

Kawarazuka, Nozomi, et al. *Bringing gender analysis and resilience analysis together in small-scale fisheries research: challenges and opportunities*. DEV Working paper 53, School of International Development, University of East Anglia, 2016.

Kleiber, Danika, Leila M. Harris, and Amanda CJ Vincent. "Gender and small-scale fisheries: a case for counting women and beyond." *Fish and Fisheries* 16.4 (2015): 547-562.

Knutsson, Per. "The sustainable livelihoods approach: A framework for knowledge integration assessment." *Human Ecology Review* 13.1 (2006): 90-99.

Kovalainen, Anne. "Toward a new research model of gender in management and leadership studies." *International Journal for the Advancement of Counselling* 11.4 (1988): 305-312.

Luedi, Eremy. "Maldives Faces Coup and Heightened Terror Threat | GRI." *Global Risk Insights*. N.p., 2016. Web. 27 Oct. 2016.

Majeed, Raamy. "The Rising Tide of Islamic Radicalism in the Maldives." (2014).

- March, Candida, Inés A. Smyth, and Maitrayee Mukhopadhyay. *A guide to gender-analysis frameworks*. Oxfam, 1999.
- Nash, June. "Women in development: Dependency and exploitation." *Development and change* 8.2 (1977): 161-182.
- Organization for economic co-operation and development (OECD). Gender Publication - Closing the Gender Gap: Act Now. Organization for Economic Co-operation and Development, 15 Dec. 2012. Web. 28 Oct. 2016.
- Overholt, Catherine, Mary B. Anderson, Kathleen Cloud, and James E. Austin. *Gender Roles in Development Projects: A Case Book*. West Hartford, CT: Kumarian Press, 1985.
- Pasteur, Kath. "Gender Analysis for Sustainable Livelihoods Frameworks, tools and links to other sources." *Sustainable Livelihoods Tool*, www.livelihoods.org (2002).
- Pfau-Effinger, Birgit. Gender cultures and the gender arrangement—a theoretical framework for cross-national gender research." *Innovation: The European Journal of Social Science Research* 11.2 (1998): 147-166.
- Polotan-de la Cruz, L. 1994. Bringing women into communit based coastal resources management. Coastal Zone Canada, Halifax, N.S.
- Scheinkman, Jose A. Social interactions. *The new palgrave dictionary of economics* 2 (2008).
- Serrat, Olivier. The sustainable Livelihoods Approach. Knowledge Solutions. Asian Development Bank. Nov. 2008.
- Trichur, Ganesh K. *Asia and the Transformation of the World System*. N.p.: Paradigm Pub, 2010. Print
- The WorldFish Center Small-scale capture fisheries: a global overview with emphasis on developing countries: a preliminary report of the Big Numbers Project Food and Agriculture Organization of the United Nations (2008). Penang, Malaysia. 63 p.
- Tidwell, James H., and Geoff L. Allan. "Fish as Food: Aquaculture's Contribution: Ecological and Economic Impacts and Contributions of Fish Farming and Capture Fisheries." *EMBO Reports* 2.11 (2001): 958–963. *PMC*. Web. 14 Nov. 2016.
- United Nations. Sustainable Development Goals, Sustainable Development Knowledge Platform. *UN News Center*. United Nations, n.d. Web. 30 Oct. 2016.
- United Nations. United Nations Millennium Development Goals. *UN News Center*. United Nations, n.d. Web. 31 Oct. 2016.

- United Nations. "Sustainable Development Goal 5: Gender Equality." *UN Women*. United Nations, n.d. Web. 15 Nov. 2016.
- United Nations. "Facts and Figures: Economic Empowerment." *UN Women*. United Nations, n.d. Web. 15 Nov. 2016.
- United Nations. Millennium Development Goals." *UNDP in Maldives.*, 2012. Web. 26 Oct. 2016.
- United Nations. Human Development reports *Gender Development Index (GDI)*. United Nations Development Program, 2015. Web. 30 Oct. 2016.
- Waller, Nikki. "How Men and Women See the Workplace Differently." *The Wallstreet Journal*. Sept 27, 2016. Print.
- Ward, John, et al. "Evidence for Action: Gender Equality and Economic Growth." *Chatham House and Vivideconomics* (2010).
- Warren, Hannah. "Using gender-analysis frameworks: theoretical and practical reflections." *Gender & Development* 15.2 (2007): 187-198.
- Weeratunge, Nireka, et al. "Small-scale fisheries through the wellbeing lens." *Fish and Fisheries* 15.2 (2014): 255-279.
- The World Bank. Gender Data Portal, Maldives. The World Bank. Theworldbank.org. 2016. Accessed, Nov 13, 2016.