

# LIVELIHOOD DIVERSIFICATION OF COASTAL COMMUNITIES THROUGH GENDERED LENS: A CASE STUDY ON KOVALAM VILLAGE, TAMIL NADU, INDIA

**Rabeya Sultana Leya<sup>\*1</sup>, Zarin Subah<sup>2</sup>, Deepa Neupane<sup>3</sup>, Sivaranjani Jaisankar<sup>4</sup>,  
Malindya Senadeera<sup>5</sup>**

1. *\*Corresponding Author: Assistant Professor, Urban and Rural Planning Discipline, Khulna University, Khulna, Bangladesh. Email: rabeya.leya@ku.ac.bd*

2. *Graduate Student, IWMF, Bangladesh University of Engineering and Technology (BUET), Bangladesh*

3. *Graduate Student, Nepal Engineering College, Nepal*

4. *Graduate Student, Anna University, Chennai, India*

5. *Graduate Student, Post Graduate Institute of Agriculture, University of Peradeniya, Sri Lanka*

## ABSTRACT

This study has assessed livelihood diversification occurred in Kovalam, which is a coastal village in Tamil Nadu state in India. Livelihood diversification is a strategy which enables people to surmount the vulnerability of conventional income-generating activities by diversifying and expanding the number of activities for an improvement in their standard of living. Participatory Rural Appraisal tools, which are focus group discussion, key-informant interview and semi-structured questionnaires, have been used to collect primary data. The result suggested that fishing and fishing allied activities are the major livelihood in Kovalam village, whereas nowadays, small business, services, day laborer, vendors and other different activities are also practiced as livelihood options on a smaller scale. The emerging issue of freshwater insecurity interlinks with the gender division of labor corresponding to livelihood strategies. Gender can be integrated in a better way to ensure sustainable livelihood which will safeguard the wellbeing of coastal communities.

**KEYWORDS:** Gender, Water, Livelihood, Livelihood diversification, Fisheries community, Coastal area

## 1. INTRODUCTION

Abundance of the fishing resources in the coastal areas of the world makes fishing and fishing related activities as the most dominating livelihood practices. In coastal areas, livelihood diversification is necessary for reducing dependency on a single resource like fisheries and creating alternative livelihood is required for an effective management of the resources. As population is rapidly increasing worldwide, job-substitution or non-traditional jobs for living are required to reduce poverty. It also helps in the household risk management through securing income and consumption from non-conventional activities. Thus, diversification of livelihood activities creates adaptive strategies for tackling the reduced traditional livelihood resources (Brugère, et al., 2008).

Diverse livelihood offers benefits to poor people who do not have access and control over traditional livelihood. People engage themselves in various nontraditional activities which assist in alleviating poverty and hunger, reduce vulnerability and enable them to be resilient in dire

situations. The socio-economic status of the people living in coastal areas has increased by engaging in diverse economic activities and decreasing hardships in traditional livelihood (Smith et al., 2005).

South Asia is an important region in terms of fish trade, supplying 60% of global fish production where coastal fisheries play a critical role in ensuring food security and providing livelihoods, for poorer sections of the community (Stobutzki et al., 2006). the livelihood of coastal communities is often classified and derived from the ecosystem services which are diversified among fisheries and agriculture. Fishing communities are often perceived as specialized and dependent on a single source of food and income: either freshwater or marine water (Holvoet & Allison, 2008). The traditional coastal livelihood undergoes continuous changes and rearrangement along with time because of the limited materials and resources, infrastructural development, new opportunities and climatic vulnerability arising from their nature of work (de la Torre-Castro & Lindstorm, 2010; Jayaweera, 2010). Seasonal fishing, natural hazards, isolation and climate change are often constraining their ability to get sufficient income to support their livelihood (Paulus & Fauzi, 2017). Diverse livelihood portfolios are frequently viewed as a critical component of household economies in developing countries (Cinner, 2010). As a result, coastal communities are adopting approaches like enhancing their livelihood strategies, diversifying their livelihood and finding alternative livelihoods than the traditional in order to pursue sustainable livelihood interventions (IMM Ltd. 2008; Ireland 2004; Pomeroy 2013; Stacey et al., 2019).

Fisheries have often continued to be seen as a male domain for a long time. This is because of the gendered division of labor in the fishing sector, wherein women in many parts of the world occupy the pre- and post-harvest sector and are less involved in the catching of fish. However, this masculine perspective of fisheries results from a narrow understanding of fishing, which often excludes female harvesting activities, such as the collecting of invertebrates along shores. Because women and men often use marine spaces differently, a gender lens is required to gain a deeper and more holistic understanding of human interactions in coastal-marine spaces (Rohe et al., 2018).

The aim of this study is to explore the factors that drive the shift of traditional water dependent livelihood patterns to diversified ones. The goal of the research was to find out the structure of traditional livelihood in Kovalam village, the reasons behind the shift in the traditional livelihood to diversified livelihood structure and the water-related issues which are affecting on these changes.

## **2. LITERATURE REVIEW**

In recent decades, there have been considerable efforts to enhance, diversify or introduce alternative livelihood activities in marginalized coastal communities, to ease reliance on deteriorating coastal resources, reduce poverty and improve well-being outcomes (Pomeroy et al., 2017; Steenbergen et al., 2017). The approach to improving coastal livelihoods has mirrored development practice in agricultural settings, with livelihoods interventions often grounded in the Sustainable Livelihoods Framework (DFID 1999), which provides a conceptual framework

of the process by which people combine their capabilities, skills and knowledge with the assets at their disposal to create activities that will enable them to make a living (Ireland, 2004). Application of the framework focuses attention on how the institutional and vulnerability context mediates people's ability to achieve a desired livelihood outcome from a bundle of assets.

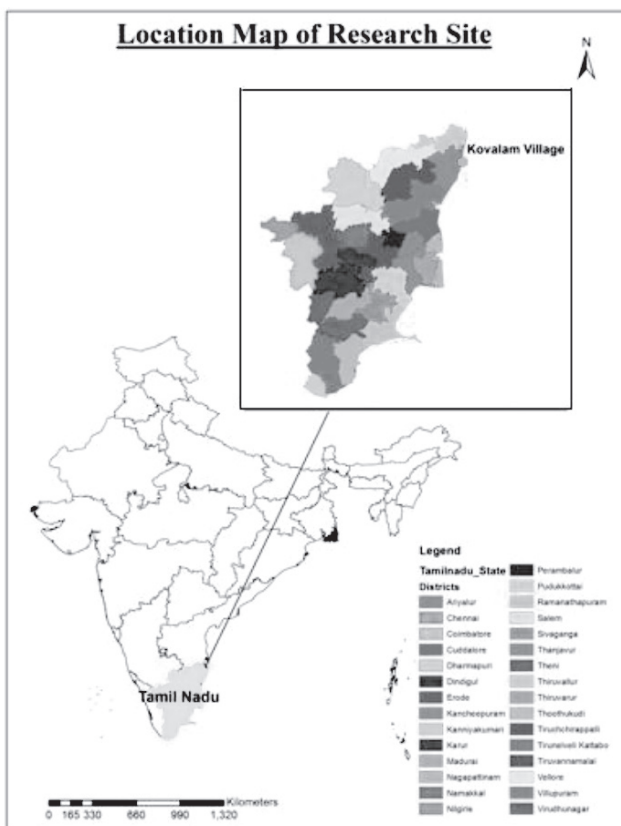
Livelihood diversification is the process by which a household increases the diversity (i.e. number) of its income-generating activities (Ellis, 2000). Gender, religion and caste influenced the opportunities and type of income-generating activities engaged in. Gaillard et al. (2009) define sustainable livelihood means capacity to sustain people's basic needs. In fact, there are contexts where livelihood diversification strategies can have economic scope effect when rural households invest resources across multiple scopes and get higher per unit returns (Barrett, 2001). Livelihood diversification refers to a key strategy taking place at different levels of the economy, which are not always linked (Start, 2001). In addition, livelihood diversification is an effective way of solving the problems caused by poverty and environmental degradation. Therefore, livelihood diversification can be used as an efficient indicator to evaluate the success and sustainability of the rural community in China (Liu & Liu, 2016). Diversified livelihood practices help to reduce households' dependence on environmental resources by helping environment restoration (Gebbru et al., 2018)

Gender is defined as socially constructed distinct roles, responsibilities and rights of men and women, rather than biological aspects (Gutierrez-Montes et al., 2012). Social norms shape gender with laws, practices and beliefs, forming the acceptable attitude and behavior of men and women (Harper et al., 2014). It creates an impact on the achievement of livelihood outcomes, as gender sometimes works as a barrier to avail the same opportunity between men and women (Okali, 2011). In such cases, the opportunities of education, information, training, services, etc. are more likely to be favorable for men than women because of the impact of gendered social norms (Meinzen-Dick et al., 2014). The equipment, resources and assets (fish, land, boat) are owned and managed by men where women are constrained by traditional caring 'duties or reproductive works within the household (Harper et al., 2014). A study conducted in coastal regions of Indonesia describes the increase of men's participation in capturing fisheries because of the resources (boat and ice) and authority over them. Women are found to participate in markets, preserving and processing fishes to sell, and providing support to men to improve fish harvest (Stacey et al., 2019).

Level of vulnerability may vary between men and women (Smit & Wandel, 2006). Rural women are more vulnerable, because most women depend on ecosystem service-based livelihoods (Denton, 2002). Fisheries are one of the major ecosystem service-based livelihood strategies in coastal communities. Both men and women are engaged in that livelihood activity, but women's role is often invisible because they consider the work as part of their traditional home duties (Williams, 2008). The role of women in the fishery industry is to produce less value-added products (sundried) for smaller species, while men produce high value-added products such as smoked large fish species (Chiwaula et.al, 2012).

### 3. STUDY AREA

The study has been conducted in Kovalam Village of Kancheepuram district of Tamil Nadu state in India. Kancheepuram district is on the North-East coast of Tamil Nadu. It is bound by Bay of Bengal in the East, Vellore and Thiruvannamalai districts in the west, Thiruvallur and Chennai districts in the north, and Villupuram district in the south. It lies between 11° 00' to 12° 00' latitudes and 77° 28' to 78° 50' longitudes. Kovalam is a small fishing beach village on the East Coast in Thiruporur Block of Kanchipuram District, Tamil Nadu State, India. The demographic language of Kovalam is Tamil and English. Fishing communities are often perceived as specialized and dependent on a single source of income in Kovalam village, where multiple types of activities exist related to fishing. Kovalam village has a population of 8,124, of which 3,980 are males while 4,144 are females, as per report released by Census India 2011. The normal annual rainfall over the Kanchipuram district varies from 1105 mm to 1214mm. It is the minimum in the western and northwestern parts of the district around Uthiramerur (1105 mm) and it is the maximum around Kovalam (1214.2 mm). The minimum and maximum temperature are 20°C & 37°C.



Map:01 Map of the study area

#### **4. METHODOLOGY**

Secondary data have been collected through a literature review for conceptualizing the overall livelihood practices in different coastal communities. Primary data have been collected through a field survey in September 2019. Participatory Rural Appraisal tools: Focus Group Discussions, Key Informant Interviews, Social Mapping, Semi-structured in-depth interview have been used for field level primary data collection. 8 Focus Group Discussions (FGDs) have been performed with local people in order to collect data. Key Informant Interviews (KIIs) included president of fishermen cooperatives, former head of Hindu fisherwomen society, director of oceanographic research center. Qualitative analysis of the collected data has been performed in this study to find out the condition of livelihood diversification and its impact on gender. In order to identify the reasons behind transformation of livelihood practices, in-depth analysis has been done which helps to explore the interconnection between gender and livelihood practices in the study area.

#### **5. ANALYSIS AND FINDINGS**

##### **5.1 Traditional Livelihood Structure**

Fishing and fishing allied activities are the major livelihood in Kovalam village. Fishermen, living in Kovalam village, are continuing fishing as the main livelihood option from generation to generation. In a focus group discussion with 20 fishermen, it is found that the seashore in Kovalam is very productive for fishing, which attracts fishermen to go there for fishing from other places in India. The fishermen catch fishes at night and sell them in the morning to the local vendors. The cost of fishing boats and nets is high for which the fishermen who own those make better profit than others. Some people are not involved in catching fish but involved in fishing by working for cutting and selling fish, driving the fishing boats, surfing, and making fish blades. Their income from secondary fishing activities is not as high as traditional fishermen and sometimes confront social injustice from other fishermen.

Majority of the men from Kovalam village are found to be fishermen because of the abundance of fish resources present in the seashore. But only men are engaged in catching fish from the sea because fishing on sea is considered as men's job. Compared to men, the majority of the women's contribution in income-generating activities is low as they are engaged in reproductive roles, such as fetching water, cooking, caring for their children. Though women have limited access to fishing, women are engaged in fishing related activities, such as cleaning, cutting, selling and drying fishes within the bank, collecting fishes for daily household consumption as a part of secondary activities. Some women are also found selling grocery items, making fishing blades, running small street food shops and working in restaurants as a part-time work to manage their daily expenditure and then engage their full time for household chores. Women are restricted to do deep water fishing in the sea, but they sometimes go for backwater fishing in order to fulfill their daily necessities. During unfavorable weather when men can't go fishing in the deep sea, women collect fishes, crabs and prawns from backwater which they sell in the markets.

Gender inequity is found in the survey in terms of the participation of men and women in fishing for livelihood. One respondent, Karpagam, stated that men have narrow views regarding women's ability to catch fish in the deep sea and no women may go in the deep sea to catch fish.

Men believe household chores are women's work, not men's work. For this reason, they are the one who are responsible for all household chores, including fetching water from nearby water sources, which hampers their business and lower income generation. Despite being college graduates, women are confined within household chores because of social binding.

Also, it is found from the survey that Muslim population living in the village are not linked with fishing. Muslim community is engaged with fishing related activities, such as marketing, making fish blades, and cutting fish, but they are prohibited from fishing. Children from Hindu fishermen's family get financial support from Taj Hotel for attending schools whereas, the children belonging to other religions don't get the opportunity of free schooling. Also, Dalit people who do backwater fishing live in a miserable environment. They don't have drainage or waste dumping system. They live with garbage and don't have a proper job for maintaining their livelihood.

Main occupation of the villagers is fishing, although most of them lack important assets such as boats. The government banned smaller grid size fishnets (suruku valai and rettamadu valai) and speedboats, which led a major change in their fishing practice. Also, fishing is a seasonal occupation for them, as they can't go fishing in September, October, and November because of heavy tidal flows. Besides, the unavailability of freshwater for drinking purpose, absence of any proper drainage system and frequent disasters cause enormous struggle in their traditional livelihood structure.

Women in Kovalam village are compelled to collect freshwater for daily use because of the patriarchal norms. According to Pappammal, a respondent, they purchase canned water (Rs.30 per can) for drinking and collect water from the nearest community well for bathing and other purposes. But most of the wells get dried up in the dry season. So, they struggle a lot to collect water from distant places in dry seasons. The water quality of the community wells is not up to the benchmark, whereas canned water is expensive and can't be delivered to individual households. It creates sufferings in monsoon period as canned water is the only source of freshwater, and it is hard to be accessed and afforded by the poor villagers.

Significant differences between the present and past scenario of freshwater availability and accessibility are found from surveys which portray the drudgery women face in collecting water. Mohamad, cable operator in Kovalam and a respondent, mentioned that the water dug well in his household premises was good and sufficient in the past. But the water from the well became saline for about one and half years (in between 2003-2004). At those time periods, women used to fetch water from other wells in nearby villages which was troublesome for them. The scenario has again changed and the water from the well is good now and they use the same water for cooking, cleaning and other activities. Also, Srimathi and Karpagam mentioned women used to struggle for accessing fresh water in the past few decades as water was saline and they had to walk around 2 km to fetch freshwater.

Currently, canned water is available, though it is not affordable by all. Because of the scarcity of the freshwater source for the consumptive use, i.e., drinking and domestic usage, most of the

people depend on the canned water and community well, which affects their economic and livelihood status.

It has been found from the survey that there is no proper drainage system in Kovalam village. The fishermen who joined in the focus group discussion said that some households have a direct connection with their septic tank in order to discharge grey water. Many of them discharge wastewater directly on pavements and pollute the surrounding environment. Karpagam, seller in the fish market of Kovalam, mentioned that roads look like sewage channels in monsoon because of flooding and disposal of wastes in roads. She also said that government officials and politicians visit their place, but none has taken any initiative to solve the drainage problem. Another respondent, Srimathi, stated that the absence of a proper drainage network system causes environmental pollution, severe health problems and water-borne diseases. Most of the respondents also pointed out the fact that they get affected by waterborne and vector transmitted diseases because of no proper drainage system.

Several disasters have affected the lives of Kovalam villagers as it is near seashore. According to Karpagam, the 2004 tsunami was the devastating one in the last few decades and damaged the community in a severe form. Disaster resiliency increased in the village because of the tsunami, leading to the establishment of pucca houses and shelters, engaging villagers in community activities to reduce the vulnerability. Also, another cyclone named Vardhaa which happened in 2016 has caused much losses and damages in the village. She also said that fishermen stay at home during cyclones as they can't go fishing in disaster periods. In order to manage their livelihood, they borrow money from the moneylenders. It causes enhanced stress among them to pay back the loan money later and their savings also get decreased.

## **5.2. Livelihood Diversification**

Diverse livelihood options are emerging in Kovalam village in the past few decades, for which the structure of traditional livelihood has also changed. Though fishing and fishing related activities are the main occupations for their livelihood, other sources of income such as small business, services, day laborer and different activities are increasing in Kovalam village. Women's participation in income-generating activities, rather than household works is also increased by time, which also shows a trend change in the traditional way of livelihood.

Seasonal variation in fishing, poverty, caste discrimination in fishing, and the increase in literacy rate among people are the main reasons behind the diversification of livelihood. One respondent, Mohammad Faisal, described that only fishing is not suitable for living and they have to engage in other secondary occupations as well. He also said fishing is a seasonal business and sometimes they cannot catch the desirable number of fish, which leads to no or little income generation.

Aligned with the problems of seasonal fishing, most of the villagers lack important assets such as boats, gill nets and other fishing equipment. One respondent, Rajathi, stated that her family can't afford their own boat for fishing. Poverty led them to become involved in different occupations other than fishing. She sells fishes in the local market, her one son works in a hotel



in Chennai, another son works for other fishermen and daughter-in-law is a housemaid. Another respondent, Pappammal's husband, does not earn any money for their livelihood rather than spend all of their money on his drinking habits and had to struggle a lot to give proper upbringing to her children. Financial crisis led her to start a small fish selling business in order to fulfil basic needs of her family.

## **6. DISCUSSION**

The people of Kovalam are engaged in diverse occupations and livelihood options like fishing, fishing related activities, small business (groceries shop, making fish cutting blades), services, labor and others. Among them, fishing is one of the major occupations in the Kovalam village. There are deep sea fishing, backwater fishing and sea shore fishing. Since only men are involved in deep sea fishing while backwater and sea shore fishing are performed by women in small scale or for daily consumption. The gender difference in the fishing is that men go to the fishing and auction fish in the market, women process the catch (cleaning, sorting and drying) as well as sell fish within the seashore (Hapke & Ayyanketil, 2018; Salmi & Sonck-Rautio, 2018). Deep sea fishing is done in the night time. The reason for disengaging women in deep sea fishing are because of security issues, women are feeble and fishing in deep sea for long hours could be tiring and almost all the women are responsible for reproductive roles like feeding and taking care of child and elderly, which demands their presence around (Yodanis, 2000).

The prevailing conservative and patriarchal ideology of the people, educated and qualified women, are also deprived of opportunities to work and have jobs outside. Women are confined to the household chores and engage in low-income generation activities fishing related activities i.e., processing the catch, drying fish, selling both raw and dry fish and selling cooked fish, crabs and shrimp (Weeraratne et al., 2014). In contrary to this, Muslim women from Kovalam village are not engaged in fish selling and fishing related activities but involved in other business such as running groceries shop and fish cutting blades making business. Similarly, within the household, daughter in laws is more responsible for the household chores and reproductive roles than the mother-in-law, which shows that daughter-in-law gets fewer opportunities and time for income generation while they are confined to household activities.

Most of the households are the men headed where they are one who owns and handles all the major activities like fishing, business and services thus, controlling over the income generated. For this reason, women are not empowered and participate less in the major decision of the family for livelihood strategies. The physical assets required for the fishing such as boats, nets and fishing gear are also maintained by the men; women lack ownership of these assets thus cannot go fishing on their own (Hapke & Ayyanketil, 2018). Unlike other occupations, fishing is a seasonal business. During rainy seasons, people could not go to the sea for fishing. For those months and seasons, men have to go for other income-generating activities while women borrow some money from the lenders, adding more burden to their livelihood. Thus, nowadays, the younger generation from the Kovalam village is inclined towards multiple occupations along with fishing or engaged in services for a sustainable livelihood (Frangoudes & Gerrard, 2018).



The Kovalam villagers depend on the groundwater source for their fresh water needs and water for the household is termed as a women's business. The defined gendered roles for women in household activities, especially the drudgery to fetch water from the nearby water sources, affect their time and options for income generation, affecting their livelihood strategies. Men return to the shore early morning with the catch, and their fishing activities related to processing of the catch, cleaning, sorting, and selling. All those activities should be done in the morning. But women have to spend most of their morning fetching water and preparing meals, which hampers the peak time of engaging herself in fishing related activities for income generation (Samuel, 2007). Nowadays, because of gradual depletion of the groundwater, salt intrusion and flooding has generated the scarcity of freshwater in the area, forcing them to rely on canned water. The dependency on canned water for the daily consumption further adds the economic burden and enhances their expenditure. The emerging issue of water insecurity interlinks with the gender division of labor corresponding to livelihood strategies. Further the study on strengthening the women's organization like the Self-help groups (SHG) and fisherwomen society advocating the rights and step towards the woman empowerment through ownership on fishing equipment and deep fishing rights will create a scope for substantial income generation and contribution to the livelihood outcomes.

## **7. CONCLUSION**

The shift in the livelihood of the people from fishing to other diverse occupations is because of the climatic and non-climatic factors such as higher education, development of tourism and because of the seasonality of the fishing business. However, the shift in livelihood diversification is distributed among the gender, social division and cast in the use of the resources and opportunities. Still, the women have fewer opportunities to go out of the village for the income generation despite academic qualifications and have to rely on fishing allied activities. Further study can be conducted from the perspective of challenges and prospects of livelihood diversification of coastal communities and to find out the way to develop a sustainable structure for livelihood diversification of coastal communities like Kovalam village.

## **REFERENCES**

- Brugère, C., Holvoet, K. & Allison, E.H. (2008). Livelihood diversification in coastal and inland fishing communities: misconceptions, evidence and implications for fisheries management.
- Caroline Harper, O.D.I., Nowacka, K., Hanna Alder, O.D.I. & Ferrant, G. (2014). Measuring women's empowerment and social transformation in the post-2015 agenda.
- Chiwaula, L., Jamu, D., Chaweza, R. & Nagoli, J. (2012). The structure and margins of the Lake Chilwa fisheries in Malawi: a value chain analysis. WorldFish

- Cinner, J. E. (2010). Livelihood Diversification in Tropical Coastal Communities: A Network-Based Approach to Analyzing 'Livelihood Landscapes.' PLoS ONE, 5(8).
- De la Torre- Castro, M., & L. Lindstorm. (2010). Fishing institutions: Addressing regulative, normative and cultural-cognitive elements to enhance fisheries management. *Marine Policy* 34:77-8
- Denton, F. (2002). 'Climate Change Vulnerability, Impacts, and Adaptation: Why does gender matter?' *Gender and Development*, 10(2).
- DFID. (1999). Sustainable Livelihoods Guidance Sheets: Framework, Dfi development, <https://www.enonline.net/dfidsustainableliving>.
- Ellis, F. (2000). *Rural Livelihoods and Diversity in Developing Countries*. Oxford, UK, Oxford University Press.
- Frangoudes, K. & Gerrard, S. (2018). (En)Gendering Change in Small-Scale Fisheries and Fishing Communities in a Globalized World. *Maritime Studies*., 17(2), 117–124.
- Gaillard, J. C., Maceda, E. A., Stasiak, E., Le Berre, I., & Espaldon, M. V. O. (2009). Sustainable livelihoods and people's vulnerability in the face of coastal hazards. *Journal of Coastal Conservation*, 13(2), 119-129.
- Gebru, G. W., Ichoku, H. E. & Phil-Eze, P. O. (2018) Determinants of livelihood diversification strategies in Eastern Tigray Region of Ethiopia. *Agriculture and Food Security*. BioMed Central, 7(1), 1–9.
- Gutierrez-Montes, I., Emery, M., & Fernandez-Baca, E. (2012). Why gender matters to ecological management and poverty reduction. In *Integrating Ecology and Poverty Reduction*. Springer, New York, NY, 39-59.
- Hapke, H. M. & Ayyankaril, D. (2018). Gendered Livelihoods in the Global Fish-Food Economy: A comparative study of three fisherfolk communities in Kerala, India. *Maritime Studies*, 17(2), 133–143.
- Holvoet, K. & Allison, E. H. (2008). Livelihood diversification in coastal and inland fishing communities: misconceptions, evidence and implications for fisheries management. *Interpretation a Journal of Bible and Theology*, 1–39.
- Ireland, C. (2004). Alternative sustainable livelihoods for coastal communities: A review of experience and guide to best practice. Nairobi, IUCN. Available: <https://portals.iucn.org/library/node/8709>.
- IUCN, I. (2008). Sustainable livelihoods enhancement and diversification (SLED): A manual for practitioners. CATTERMOUL B., TP, AND CAMPBELL J (ed.). Gland, Switzerland and Colombo, Sri Lanka.

- Jayaweera, I. (2009). Livelihood and diversification in Rural Coastal Communities Livelihood and diversification in Rural Coastal Communities: Dependence on Ecosystems Services and possibilities for Sustainable Enterprising in Zanzibar, Tanzania. *Ecosystems*, 67.
- Liu, Y., & Xu, Y. (2016). A geographic identification of multidimensional poverty in rural China under the framework of sustainable livelihoods analysis. *Applied Geography*, 73, 62-76.
- Meinzen-Dick, R., Quisumbing, A. R., & Behrman, J. A. (2014). A system that delivers: Integrating gender into agricultural research, development, and extension. In *Gender in Agriculture*. Springer, Dordrecht. 373-391.
- Okali, C. (2011). Searching for new pathways towards achieving gender equity: Beyond Boserup and Women's role in economic development.
- Paulus, C. A. and Fauzi, A. (2017). Factors Affecting Sustainability of Alternatives Livelihood in Coastal Community of Nemoral, East Nusa Tenggara: An Application of Micmac Method. 18(2), 175–182.
- Pomeroy, R. S. (2013). Sustainable livelihoods and an ecosystem approach to fisheries management. Coral Triangle Support Partnership, Jakarta, Indonesia.
- Pomeroy, R.S., A.J. Ferrer, & J. Pedrajas. (2017). An analysis of livelihood projects and programs for fishing communities in the Philippines. *Marine Policy* 81: 250–255.
- Rohe, J., Schlüter, A. & Ferse, S. C. A. (2018). A gender lens on women' s harvesting activities and interactions with local marine governance in a South Pacific fishing community. *Maritime Studies*, 155–162.
- Salmi, P. & Sonck-Rautio, K. (2018). Invisible Work, Ignored Knowledge? Changing Gender Roles, Division of Labor, and Household Strategies in Finnish Small-Scale Fisheries. *Maritime Studies*. *Maritime Studies*, 17(2), 213–221.
- Smith, L.E., Khoa, S.N. & Lorenzen, K., (2005). Livelihood functions of inland fisheries: policy implications in developing countries. *Water policy*, 7(4), 359-383.
- Stacey, N., Gibson, E., Loneragan, N.R. (2019). Enhancing coastal livelihoods in Indonesia: an evaluation of recent initiatives on gender, women and sustainable livelihoods in small-scale fisheries. *Maritime Studies* 18, 359–371 (2019). <https://doi.org/10.1007/s40152-019-00142-5>Steenbergen,
- D.J., J. Clifton, L.E. Visser, N. Stacey, & A. McWilliam. (2017). Understanding influences in policy landscapes for sustainable coastal livelihoods. *Marine Policy* 82: 181–188.
- Stobutzki, I. C., Silvestre, G. T. & Garces, L. R. (2006). Key issues in coastal fisheries in South and Southeast Asia, outcomes of a regional initiative. 78, 109–118.

Weeratunge, N. et al. (2014). Small-scale fisheries through the wellbeing lens. *Fish and Fisheries*, 15(2), 255–279.

Williams, M. J. (2008). Why Look at Fisheries Through a Gender Lens? In *Development*. 51(2).

Yodanis, C. L. (2000). Constructing gender and occupational segregation: A study of women and work in fishing communities. *Qualitative Sociology*, 23(3), 267–290.