

# Inequity in unregistered women's fisheries in Mauritius following an oil spill

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## Background

As the world was dealing with COVID-19, Mauritius faced an unprecedented ecological disaster on 25 July 2020. Mauritius, a small island nation of 1.3 million people, located 500 miles off the east coast of Madagascar in the Indian Ocean, was caught off-guard when the Japanese-owned, Panama-flagged vessel, the MV *Wakashio*, wrecked on the coral reef of Pointe D'Esny. Two weeks later, the vessel began leaking oil into the crystal blue lagoon. A staggering 1000 tonnes of fuel oil polluted 27 square kilometres of the island's southeast coast, home to artisanal fishing villages and nature reserves, including two Ramsar sites: the Blue Bay Marine Park and the Pointe D'Esny Wetlands. The combination of these two disasters – COVID-19 and the oil spill – disproportionately affected coastal communities employed in the fisheries and tourism sectors. In this article, we focus on the compounded impacts of COVID-19 and the oil spill on women gleaners and their families, an overlooked and neglected subgroup of Mauritian fishers.

Immediately after the oil spill, when we visited some of the impacted artisanal fishing villages in August 2020, we spoke with women gleaners who depended on the sea directly and indirectly. They shared the severity of their families' suffering when we attended several community meetings to understand how coastal communities could be better supported to cope with this ecological disaster. We were already working in the region on our respective projects, but these were our first long-term interactions with the women from the impacted villages. Despite years of experience along this coast, we had not met many of these women until the oil spill. They were there the whole time, just invisible.

## Gleaning in Mauritius

Mauritius has four primary types of fisheries: 1) artisanal, 2) sport, 3) banks and 4) tuna. Artisanal fishing provides employment and livelihood to about 2200 registered fishers and their families in Mauritius (Lalljee et al. 2018). Along the southeast coastline of the island, where 12 village council areas were impacted by the oil spill, there are 630 registered fishers (draft UNDP report). Additionally, hundreds of people fish for subsistence and are not formally recognised through any registration process. Women tend to be largely unregistered artisanal fishers, focused on gleaning activities. Only 35 female fishers are registered in Mauritius as per the

list of registered fishers for 2019. Out of the 35, more than half operate in the area impacted by the oil spill.

Gleaning, which falls under artisanal fishing, is mostly considered as an open access activity. For example, the Fisheries and Marine Resources Act (2006) specifies numerous shellfish that can be collected. The regulation is specific to shellfish such as tek tek (*Donax* spp.), mangouak (*Isognomon* spp.), betay (*Trachycardium* spp., *Gafrarium* spp., *Asaphis* spp., *Tellina* spp.), bigorneau (*Littorina* spp.) and gono gono (*Pleuroploco trapezium*). Although permits are technically required to sell any marine products, gleaning typically happens at such a small, localised scale that it is not currently regulated by the Mauritian government.

## Impact on women gleaners of southeast Mauritius

Villagers' livelihoods had already been impacted by COVID-19, and the oil spill constituted a new, crippling hurdle because the primary resource – fisheries – was impacted. Disaster response was slow to help affected families. Immediately after the oil spill, crowdfunding through local non-governmental organisations (NGOs) was the main source of support for these families, especially fishing families who were not officially registered, and therefore not officially recognised by the government. For some context, registered fishers were eligible for a monthly compensation of MUR 10,200 (USD 256). As of November 2020, unregistered fishers – who fish both for subsistence and commercial purposes – failed to receive that support. Without registration, they were not eligible for any compensation, resulting in greater debt. They have been relying heavily on NGOs and local associations to provide them with food packs, but these often fall short of their families' needs.

As in other places in the world, the role of women in fisheries and conservation policies in Mauritius is often overlooked, even when best efforts for participation are undertaken (Trimble and Johnson 2013; Santos 2015; Harper et al. 2013; 2017; Kleiber et al. 2015; Mangubhai and Lawless 2020). Women fishers either fish for subsistence, to sell to restaurants, or to help their husbands in their artisanal fishing businesses. In Mauritius, the work undertaken by female community leaders like Sandy (one of the article's authors) is essential. She has met with more than 100 women gleaners, but her support alone is not enough to help these women.

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The shoreline in southeast Mauritius a few days after the oil spill. ©Brady Goorappa





Community meeting with fishers from Anse Jonchee, Mauritius on 2 September 2020. ©Vasisht Seetapah

Some women required less support. Stefanie, 34 years old, used to help her husband fish using fish traps in Vieux Grand Port. Stefanie has previously attempted to become a registered fisher. After much difficulty and paperwork, she was able to prove her link to artisanal fisheries to the authorities (in large part due to her familial connections with male-registered fishers) and obtained the same compensation. “This is not the case for many other women fishers who before the spill brought additional income to their families,” Stefanie said. “They fish first to feed their families and then sell any surplus to locals.”

Before the spill, Sylvie, 45 years old from the village of Bambous Virieux, was involved in gleaning activities using a hand trowel as the main equipment to collect clams. She would occasionally use a hand spear to fish for octopus as well. The surplus used to bring her and her friends some additional income but now, due to the oil spill, they have to tap into their savings for family meals and other expenses they had previously covered with fishing revenue.

**Food insecurity:** We conducted community meetings in five of the main villages impacted by the oil spill, speaking to 40 women in small groups, in addition to conducting individual interviews. Many women expressed how this loss of subsistence fishing has also resulted in a change in their families’ diet. They now consume less seafood, and spend much more money buying food from shops, and have turned to backyard gardening to sustain their families. Food insecurity also prevents children from attending school because they do not always have lunch to bring. In many families, the spouses had been involved in informal jobs such as construction or fishing, but the low levels of economic activity due to COVID-19 have made their economic circumstances even more dire. We

were, however, inspired by the fact that many were ready to start over again with initiatives such as community eco-farms, for the wellbeing of their families, with much optimism. Their resilience, responsiveness and adaptability when faced with this disaster was heartening. Unfortunately, it will likely be a long journey before they can start to be self-reliant and live comfortably again.

**Financial loss:** Unregistered women fishers cannot expect any financial support as they are not officially recognised as fishers. Sylvie told us, “Actually, there has never been a process to recognise gleaners officially – those who fish by foot. Even if we register a complaint now for support, it won’t work because we don’t have that legal recognition. For generations here, people have been fishing using the methods we use. It is part of our traditions. It was never prohibited or monitored.” About the surplus that they sell, she further highlights: “We would not even have to go far to sell. People would approach us to see if we had anything to sell. A small bowl of our catch can be sold at MUR 50 (USD 1.16). I know a friend who lost her job and who would manage her household expenses by selling at least three bowls a day. It made a difference”. As such, registration acts not only as legitimization but constitutes recognition at cultural and economic levels.

**Emotional loss:** Sylvie described the oil spill impact as a feeling of deep personal loss – not being able to go out at sea. At low tide, she used to go out to collect shellfish with her friends. “When I look at the sea now at low tide, I’m sad, thinking we could have gotten a meal out of a day gleaning with my friends today. I feel helpless”. As Mauritians, it is also this loss in generational knowledge and way of life that we are mourning with the inhabitants along the affected coastline of Mauritius.



## Gender and cultural importance of gleaning

When everyone in the household depends on marine resources for a living, the lack of attention to women in fisheries can have significant impacts not only on women but also on children and the family. Fishing is far more than just income; it has often been described as a “way of life”, one that has important cultural dimensions that go beyond income or even subsistence (Trimble and Johnson 2013; Santos 2015; Grantham et al, 2020).

The gendered nature of fishing activities in families, where men fish at sea and women either collect shellfish or are responsible for shelling shrimp, is a common occurrence globally (Harper et al. 2020). These gendered divisions between partners are presented as synergistic, and are transmitted from one generation to the next. Similarly, in Mauritius, women may perform differentiated roles in fisheries, opting for activities that do not require them to be out at sea for extended periods of time in order to juggle multiple domestic roles, including caring for children and/or elderly members of their family (Ferrant et al. 2014). Instead, many women rely on tides for gleaning, or collaborating with

kin on the use of boats to collect particular species such as asdarm (*Pinnidae* spp.).

Many of these activities are learned through generational transmission and are often village or area specific (Ram-Bidesi 2015). In Mauritius, preferred shells and species on the southeast coast are not necessarily the same on other parts of the island. Individuals learn specific gleaning and fishing techniques according to the species they catch. With the oil spill affecting a stretch of the island where artisanal fishing was the main activity, and no other major sources of employment are available, multiple communities are left in an impoverished state with limited opportunities.

The cultural importance of gleaning and its practice as a means of subsistence does not suggest an entirely romanticised view of these livelihoods. These gendered roles also highlight the challenges faced by women who engage in fishing, as many lack access to physical capital such as boats to conduct fishing methods that generate more revenue.

There may also be cultural barriers for women themselves to come forward as fishers. As Kleiber et al. (2015) have found

Fisherwoman catching octopus on Rodrigues Island, Mauritius. ©Shoals Rodrigues







Octopus drying on Rodrigues Island, Mauritius. ©Josheena Naggea

in their review of case studies on women in fisheries, women were more likely to downplay their fishing activity, as they were considered a poverty-related activity associated with shame. The oil spill and lack of recognition has therefore added adversity to an already vulnerable group.

### Women fishers on neighbouring Rodrigues Island

Although there are social safety nets for registered fishers in Mauritius, such as a daily compensation when the weather is not conducive for fishing, artisanal fisheries is largely undervalued from a policy perspective and even more from a research perspective. With that in mind, the role of women in fisheries value chains is even more undervalued on the island of Mauritius. While they face their own unique challenges, women on the neighbouring semi-autonomous island of Rodrigues (also part of the Republic of Mauritius) who are involved in gleaning activities, mainly octopus fishing, are considered a main pillar of the economy. Around 32% of the registered fishers are women, which gives them more legitimacy to contribute to participatory discussions about fisheries, and to be compensated rightfully as and when needed. By contrast, gleaning in Mauritius is an invisible profession, as are the people involved in such activities.

On Rodrigues, the reefs are shallower and enable gleaning at low tide with greater ease. Even with limited resources, women are able to access fisheries relatively easily and are highly involved in creating value-added products, such as dried and pickled octopus, which are then exported to

Mauritius. Rodrigues takes extreme pride in its artisanal fishery heritage, and women fishers are central to this. Although women fishers on Rodrigues face their own challenges, those in Mauritius face more significant issues associated with being unregistered fisherwomen and gleaners who are not acknowledged as an integral part of the system.

### Broader gender context in Mauritius

Mauritius particularly lags behind in gender equality measures related to economic participation, ranking 115 out of 153 countries according to the 2020 Global Gender Gap Index, a global report of the World Economic Forum that attempts to measure the gap between women and men in four key dimensions: 1) economic participation and opportunity; 2) educational attainment; 3) health and survival; and 4) political empowerment. Several factors explain this low number. There is a significant difference in labour force participation. For example, in 2019, 46% of women 16 years and older were active in the economy versus 73% of men in the same age category. Despite a steady increase over the last few years of women in the labour force and higher educational attainment levels, unemployment among women is still higher. While men earned an average monthly income of MUR 25,100 (USD 625), women tended to earn an average of MUR 19,100 (USD 475); men earn nearly one-third more than women. Although Mauritius regularly ranks high on most development indices and is considered a high-income country, gender inequality remains a challenge.

## Conclusion

Not being registered does not mean a fisher has not been impacted. The sea is important to one and all. Given the well documented marginalisation of women in fisheries policies and management interventions worldwide and as we have observed in Mauritius, several priorities in particular come to the fore as the country rebuilds from the oil spill. We confer with Kleiber et al. (2015) and others (Ogden 2017; Smith and Basurto 2019) that counting both women and men in fisheries can help researchers and managers better understand socioecological systems at play. Counting women's fishing activities can inform the disaster recovery process, particularly in consideration of the role of gleaning and subsistence fishing in food security. Finally, including fisherwomen as much as fishermen in decision-making processes and policy development will lead to fair and equitable marine resource management and more sustainable outcomes, both ecologically and socially.

The compounding crises of COVID-19 and the oil spill have highlighted an important policy and research gap: women in fisheries often go uncounted. The oil spill impacted a high-income island, well-known for its social welfare programmes. Yet, there is a relevant group in our society whose needs have been overlooked.

Our current system systematically disadvantages these women. Out of 2200 registered fishers, less than 100 of them are women on the island of Mauritius. Although there is likely an equal to larger number of unregistered fishers compared to registered ones, fisherwomen and gleaners are far less likely to be registered or recognized at all. As women are overwhelmingly unregistered, a system which does not take into account unregistered fishers inadvertently further exacerbates gender inequalities. This compensation policy which discriminates against unregistered fishers by virtue of that fact discriminates against women because women are systematically more likely than men to be unregistered. The oil spill has made visible the inequalities between men and women fishers that already existed in the Mauritian context.

In this article, we have highlighted that any policy that discriminates against unregistered fishers in Mauritius, inadvertently discriminates against women. A gender lens should be applied to policy-making, and decision-making should be inclusive of both women and men. This article does not try to push for stricter regulations in gleaning activities, but instead highlights that subsistence fishers are fishers worthy of support. Everything may appear fine on the outside, but when disaster strikes, systemic inequalities come to the surface.

## References

- Ferrant G., Pesando L.M. and Nowacka K. 2014. Unpaid care work: The missing link in the analysis of gender gaps in labour outcomes. Paris: Organisation for Economic Cooperation and Development.
- Grantham R., Lau J. and Kleiber D. 2020. Gleaning: Beyond the subsistence narrative. *Maritime Studies* 19:509–524. (Also available at <https://doi.org/10.1007/s40152-020-00200-3>).
- Harper S., Adshade M., Lam V.W.Y., Pauly D. and Sumaila U.R. 2020. Valuing invisible catches: Estimating the global contribution by women to small-scale marine capture fisheries production. *PLoS ONE* 15(3):1–16. (Also available at <https://doi.org/10.1371/journal.pone.0228912>).
- Harper S., Grubb C., Stiles M. and Sumaila U.R. 2017. Contributions by women to fisheries economies: Insights from five maritime countries. *Coastal Management* 45(2):91–106. (Also available at <https://doi.org/10.1080/08920753.2017.1278143>).
- Harper S., Zeller D., Hauzer M., Pauly D. and Sumaila U.R. 2013. Women and fisheries: Contribution to food security and local economies. *Marine Policy* 39(1):56–63. (Also available at <https://doi.org/10.1016/j.marpol.2012.10.018>).
- Kleiber D., Harris L.M. and Vincent A.C.J. 2015. Gender and small-scale fisheries: A case for counting women and beyond. *Fish and Fisheries* 16(4):547–562. (Also available at <https://doi.org/10.1111/faf.12075>).
- Lalljee B., Velmurugan A., and Singh A.K. 2018. Climate resilient and livelihood security – Perspectives for Mauritius Island. p. 403–431. In: Sivaperuman C. (ed). *Biodiversity and Climate Change Adaptation in Tropical Islands*. Elsevier Inc. (Available at <http://dx.doi.org/10.1016/B978-0-12-813064-3/00014-4>).
- Mangubhai S. and Lawless S. 2021. Exploring gender inclusion in small-scale fisheries management in Melanesia. *Marine Policy* 123: article 104287. (Available at <https://doi.org/10.1016/j.marpol.2020.104287>).
- Ogden L.E. 2017. Fisherwomen – The uncounted dimension in fisheries management. *BioScience* 67(2):111–117.
- Ram-Bidesi V. 2015. Recognizing the role of women in supporting marine stewardship in the Pacific Islands. *Marine Policy* 59:1–8. (Also available at <https://doi.org/10.1016/j.marpol.2015.04.020>).
- Santos A.N. 2015. Fisheries as a way of life: Gendered livelihoods, identities and perspectives of artisanal fisheries in eastern Brazil. *Marine Policy* 62:279–288. (Also available at <https://doi.org/10.1016/j.marpol.2015.09.007>).
- Smith H. and Basurto X. 2019. Defining small-scale fisheries and examining the role of science in shaping perceptions of who and what counts: A systematic review. *Frontiers in Marine Science* 7 May. (Available at <https://doi.org/10.3389/fmars.2019.00236>).
- Trimble M. and Johnson D. 2013. Artisanal fishing as an undesirable way of life? The implications for governance of fishers' wellbeing aspirations in coastal Uruguay and southeastern Brazil. *Marine Policy* 37(1):37–44. (Also available at <https://doi.org/10.1016/j.marpol.2012.04.002>).