



REPORT

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EMPOWERING WOMEN ECONOMICALLY THROUGH SUSTAINABLE NATURAL RESOURCE USE

Case study of isolated coastal communities of
Mahafaly landscape Madagascar

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BACKGROUND

WWF works in the Mahafaly land and seascape in Madagascar's arid southwest region. Here, the ocean is vital to local economies and local culture. The seascape is home to some of the highest levels of marine biodiversity on the planet and supports the world's third largest coral reef, the Tuléar reef¹. This reef is one of only five large continuous reef systems in the world, and one of very few places in the world inhabited by the coelacanth, a critically endangered fish that has existed for more than 400 million years. The region attracts marine turtles from across the Western Indian Ocean, and is a breeding and calving area for humpback whales.

However, these areas are now experiencing unprecedented threats from climate change and overfishing. WWF aims to change the perception communities have towards marine reserves, to encourage them to see it more as an opportunity for conservation and socio-economic development, rather than an obstacle to traditional fishery practices.

¹ WWF, Climate Change Threatens Madagascar's Unique Coral reef, available at <https://www.worldwildlife.org/stories/climate-change-threatens-madagascar-s-unique-coral-reefs>

INTRODUCTION

This case study highlights the economic aspects of gender mainstreaming in conservation activities in Mahafaly coastal communities and focusses particularly on women's economic participation and empowerment in fostering sustainable nature-based local development. Concrete examples of initiatives from Mahafaly land and seascape are presented to illustrate the practical measures undertaken to integrate gender into the natural resource based economic sector.

The Mahafaly coastal communities (Vezo people), are extremely poor and depend almost exclusively on marine resources for their daily subsistence. WWF has recognised the importance of managing marine areas by establishing and managing Marine Protected Areas (MPAs) and Locally Managed Marine Areas (LMMAs). LMMAs are an effective way to protect critical habitats and biodiversity while at the same time, sustaining and enhancing adjacent small-scale fisheries. However, although over 170,000 ha of MPAs are in place in the Mahafaly landscape, the majority are not effective because of limited acceptance and support by adjacent communities.

These isolated coastal communities face food insecurity, environmental degradation and vulnerability to climate change, with women often being the most vulnerable and bearing the brunt of these challenges. In response to these interconnected challenges, the WWF Madagascar Office developed a holistic approach of integrating gender empowerment with marine conservation and coastal livelihood initiatives. WWF has recognised the importance of an approach that engages communities, that strengthens capacity, addresses discriminatory practices, supports the establishment of public-private partnerships and promotes both inclusive and sustainable development for the benefit of women and men, and of their natural capital.

GENDER DYNAMICS IN MAHAFALY

Article 6 of Madagascar's constitution calls for equal participation of women and men in public, economic, and social life. However, much work remains to be done to achieve full gender equity. In Mahafaly areas, traditional customs and stereotypes still prevail and regulate women's everyday lives.

Elders, based on ancestral laws and beliefs, dictate traditional practices and customs, which women in particular are expected to adhere to. As such, women in the Mahafaly communities face many challenges, including:

- Discrimination and inequality are evident in women's access to education. E.g. custom requires a young girl to marry an older man resulting in girls leaving school without finishing primary education.
- Women encounter unequal access to resources including land and livestock. Women have weaker property rights than their male counterparts, and are not equally represented alongside men in rural organizations.
- Women have fewer opportunities in accessing formal education and training, and as such, women are less equipped to compete for employment opportunities or to start their own business.
- Women are restricted by household activities as well as their mobility, which limits the time and opportunity they have for engaging in economic activities outside of the home.
- Lack of social infrastructure and services (poor access to safe water, health services, child-care), are further obstacles to the full and equal participation of women in economic activities.
- Women's lack of decision-making power regarding family planning (men often desire larger families for cultural reasons), increases the burden on women.

PROGRAMME ACTIVITIES²

To address gender inequalities and empower women economically, WWF aims to (a) expand women's employment opportunities, (b) promote the principle of equal pay for equal work, (c) meaningfully engage women in trade negotiations with private and other decision-making forums, and (d) expand women's entrepreneurship.

Aquaculture and Fisheries as a “stepping stone”

In close collaboration with partners including private sector (Ocean Farmers, COPEFRITO) and NGOs (Blue Ventures), WWF has implemented an alternative model to reduce fishing pressure and provide support to MPAs. This business model creates sustainable income for fishing communities while enhancing marine biodiversity. The principle is to invest in establishing a temporary octopus reserve, while developing seaweed aquaculture activities and create an alternative source of revenue.

The LMMAs are established to sustain community-based small-scale fisheries management. With poor coastal people depending mainly on the sea for their livelihoods, the new approach aims to build local engagement in marine conservation. The model, which combines temporary octopus reserves and seaweed farming, demonstrates that marine conservation can make economic sense.

In 2014, in conjunction with local communities, WWF established the octopus reserve following the model developed by Blue Ventures. Local communities were encouraged to cordon off areas of their octopus fishing-zone and close it to fishing for one month to allow the octopus numbers to recover. When the area was reopened a month later, the octopus numbers had recovered, doubling the catch and income. This closure model demonstrated that allowing a fishery to recover is a good investment opportunity to address collapsing fish stocks. By 2017, the number of fishermen involved in the LMMA was approximately 3230, with over half of them (1730) targeting octopus. Both men and women harvest octopus but the sector is dominated by women (86% women vs 31% men). Octopus is important to the local market, and represents a significant source of income, particularly for women.

Promoting Seaweed Farming

During the period of closure, the fishers relied upon the seaweed aquaculture activities to sustain their livelihoods and WWF developed a seaweed business model with women. The development of seaweed farming is one of the drivers of change of the local communities' behaviour towards sustainable marine resources use and reinforces their involvement in the conservation actions. This approach has enabled women to increase their engagement in the LMMA management. Furthermore, women involved in seaweed and octopus management have taken the lead in raising awareness about destructive activities that are damaging their rich marine environment.

Conservation and Livelihood Initiatives

The southwestern part of Madagascar is very dry and the rare groundwater is salty. Daily, people walk up to 18 km to buy clean non-salty groundwater. WWF has worked in the area of Mahafaly since 2001, implementing a range of conservation and livelihood related projects. In 2012, WWF installed solar-powered equipment for the desalinization of ground water, to improve access to water, promote hygiene sanitation and raise awareness on the intrinsic value of water. These efforts resulted in a significant reduction in water borne diseases especially in children. Improvements in social infrastructure and a reduction in infant illnesses created a noticeable socio-economic change in the villages, which enabled an increase in women's involvement in seaweed cash crop production. With a reduction in time spent fetching water and taking children to hospital, women have more time to allocate to economic activities of seaweed cash crop production and octopus farming.

Households often function as an economic unit and to support their husbands, women wait for low tide to roam the lagoons in search of octopus, sea urchins and other crustaceans to be consumed or sold. However, part of the coral reef is damaged during this process, making this practice highly destructive for the reef. WWF has introduced seaweed farming as a sustainable alternative to overfishing and reef gleaning. The local communities, especially women, now have an alternative income opportunity to rely for household income.

² WWF, Climate Change Threatens Madagascar's Unique Coral reef, available at <https://www.worldwildlife.org/stories/climate-change-threatens-madagascar-s-unique-coral-reefs>

RESULTS AND OUTCOMES

- Seaweed farming has generated small-scale income to local communities. In 2017, the seaweed model was scaled-up, to promote a larger and more sustainable source of income and to improve livelihoods. Seaweed farming was developed as an alternative option for women during the temporary closures of octopus fishing grounds, and as a compensation to reduce women's reef gleaning that was damaging the reef. Seaweed is a "cash crop" and 100% is sold directly to commercial collectors, and **women now have socially acceptable access to the market, allowing them to fully participate.**
- In the development of seaweed activities, WWF specifically targeted female farmers, including female-headed households. The seaweed activity currently involves 258 farmers of which 201 are women (80%). These farmers support a further 1550 people. On average, a farmer earns 112,000MGA (NOK228) per month from seaweed cultivation, with many fishers turning to seaweed farming as their major alternative income generating activity.
- One beneficiary, Martine, stated, *"The cultivation of seaweed was introduced in our village by WWF. They gave us the seeds to plant and trained some of us on how to cultivate the seaweed. Before becoming involved in seaweed farming, my life was extremely hard. Myself and other farmers found it difficult to provide enough food for our families."*
Martine is a 25-year-old mother of two children from Ankilimionga village, who enrolled this year in seaweed farming. Martine earns 200,000MGA (almost NOK512) in 45 days (approximately NOK11 / day). The average income in Madagascar is around NOK8 / day and in this region, even lower. In the village of Ankilimionga, seaweed farming has become the main source of income compared to fishing and other activities performed by rural communities.
- The WWF initiative has enabled **women to manage their resources effectively, contributing to improved household nutrition, health and education of their children.** Women are able to meet their basic household needs. Recently households have acquired recreations goods, demonstrating an improvement in social and cultural well-being of the households
- As a result of seaweed farming, **women now have greater access and control over their own finances and are able to invest and save money.** Women are making decisions on how to spend their income. E.g. child labour is prevalent, resulting in low school attendance, with household heads being poorly educated and rarely open to innovation. However, seaweed initiatives have empowered women, especially female-headed households. Increased access to savings from diversifying income sources with seaweed production has enabling

women to send their children to school, rather than helping with seaweed farming or reef gleaning.

- **Seaweed cultivation has strengthened the role of women inside and outside of their home.** Women are now participating in the planning and decision-making on infrastructural issues for seaweed projects (warehouse construction and seaweed drying tables), as well as on issues relating to access to water, health and hygiene, latrines and wells. In the village of Befasy, WWF is currently installing a new desalination unit and a water committee has been established composed entirely of women, (women involved in seaweed production). Their positive leadership, dynamism, commitment and organization skills, a result of their seaweed management, has made it possible for them to serve on the water committee.
- The successes of the seaweed activities can be attributed to the engagement of community members, close supervision by the local technician, support from Ocean Farmers together with village organizations, and facilitation by WWF. As a result of women's involvement in the seaweed initiative and as members of LMMA, **women have been able to produce and market their products and engage with private companies.** For individual women, the project has also been successful in the provision of education, training, and the opportunity to establish businesses.
- With the success of seaweed activities, communities have witnessed an **increase in coastal resilience**, by limiting the pressure on reefs through developing aquaculture and implementing temporary fisheries closures. With seaweed plantation, there has been the replenishment of a new ecosystem. This increased coastal resilience is key to ensuring coral reefs resist the more frequent bleaching events caused by climate change and enhance food security. WWF supports the coral reef resilience studies conducted by the Malagasy Marine Institute and the value of coral reef resilience index has remained at 4 for the last 4 years (5 being the best status of resilience).
- **Women now have a voice in their contribution to LMMA management and leadership**, although culture, lack of education and societal factors, remain obstacles to the empowerment of women. However, women's involvement in seaweed farming has empowered them within their communities, and their rights are recognized both as individuals and as independent income-earners. The initiative supports them to be effective providers and leaders at home and in their community.
- In general, decision-making bodies (E.g. LMMA managers, octopus committees) are male-dominated with women representing at most 10% of its members, with no women at executive leadership level. Although present at the meetings, female members are rarely vocal or participate in decisions. However, **women's involvement in seaweed initiatives has empowered them to be more vocal, and to take on leadership positions, improving gender equality in decision-making.** As women comprise the majority in the seaweed

committee, and serve on the regional platform of the aquaculture value chain, they have increased their ability to influence decisions.

CONCLUSION

The involvement of women in seaweed farming has fostered women's economic participation and empowerment and contributed to poverty alleviation. For this to happen, WWF has directly engaged with women and their communities, promoted shifts and perceptions in traditional gender roles and provided access to services; markets, safe water and education. WWF supports women and provides income generating opportunities to enable them to meet, at a minimum, basic household needs and to take control of their own finances. WWF have also empowered both men and women to better plan and provide for their families, improving household food security. Where applicable, WWF encourages access to social protection, providing women with opportunities to participate and engage in decision-making inside and outside the home, and allowing women to play a more active role in local conservation efforts. Coastal communities can live more healthily and sustainably within their marine environment, as the seaweed initiative diversifies livelihoods, improves natural resource productivity, strengthens social safety nets, reduces the unsustainable over-exploitation of natural resources from fisheries, and building ecological resilience.

With such positive outcomes, further efforts could increase women's participation within the management and governance structures. It is essential that the participation of women extends to education and training opportunities, gaining knowledge on the importance of savings, sustainable business planning, and basic rights. WWF's work promotes the engagement of communities, both men and women, and contributes to local economic growth and strengthened livelihoods, building a future in which people are able to live in harmony with nature.