

Women, Water, Wi-Fi

How digitalisation and technology empower women working on the ocean and along the Amazon River

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Bonn, 19 June 2023. The synergetic interrelationship between women, water and Wi-Fi remains predominately unseen in academic and political discourses. Yet, this connection enables female leadership and empowerment while simultaneously contributing to sustainability in the sectors of climate change predictions, environmental protection and sustainable water resources management.

Especially digitalisation and the usage of Wi-Fi serve as facilitators for sustainable water resource management and addressing climate change. Our bodies of water face radical changes: water scarcity, pollution and acidification have profound impacts on humanity and ecosystems. However, gendered biases, power asymmetries and inequalities in water-related industries, research and management, e.g. fisheries, affect women and their contribution to climate change mitigation and adaptation strategies.



Women in marine sciences

Marine sciences are crucial to understanding our ocean – our largest body of water, which covers 71% of the earth's surface. Globally, 38% of the researchers in marine sciences are women. Increased intersectional diversity would offer the possibility to mobilise greater networks in marine sciences and beyond. Recent research shows that out of 28 interviewed female marine scientists, 18 experienced physical or verbal sexual harassment in their working environments: on research vessels, by male colleagues and supervisors, in the laboratory, or at conferences. Especially women with a different cultural, national and linguistic background compared to their professional working environment experienced discrimination at the intersection of age, gender, race, class and language.

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Yet, new technologies, especially remote sensing, satellite data transmission and Wi-Fi contribute to the increasing participation of women in marine sciences. If women are pregnant, they are not allowed to participate in research cruises. Due to Wi-Fi on board of research vessels, women are now able to participate remotely in the organisation of work at sea, methodological and theoretical debates and the discussion of preliminary findings. Moreover, direct transmission of data via satellites enables women on land to have access to real time data on the ocean. Access to technology, Wi-Fi and related devices and tools also pave the way for women to report on sexual harassment publicly and directly, e.g. when on board of a research vessel.

Women in agricultural production and tourism along the Amazon River

Digitalisation and technology also pave the way for female empowerment in the North of Brazil, particularly on Combu Island, where women lead agricultural production and sustainable tourism supported by Wi-Fi.

Women play a significant role in sustaining local communities and promoting sustainable practices. This can be seen, for example, with *Filha do Combu*, a chocolate production, and *Saldosa Maloca*, a cultural

dining experience. These businesses are female-led only due to women's upbringing along the Amazon River and their more innovative and versatile decision-making. Their greater ability to empathise and build strong relationships with customers promotes cooperation, inclusiveness and mutual support. The changing circumstances of the Amazon River require women to adapt their businesses constantly, which increases resilience.

In order to protect the river and its ecosystems, the flow of boats and people entering the island for cultural purposes is managed through a digital platform. Satellite data on the tides and water flow for the mills, as well as QR codes on each tree for identification and crop inventory improved the use of energy and the harvest of cacao. Going digital and boosting communication networks also helped the female entrepreneurs to deal with the vulnerability of being female owners on an island, which improved their safety and voice.

On Combu Island, women are not only caregivers; they are key agents for sustainability. While men are expected to leave the island and move to urban areas for better job opportunities, women stay on the island expanding their knowledge on and relationship with the river, the soil and the forest. Their unique capability is entangled with being raised by the water, learning to respect its boundaries, understanding the fertility of the soil and the abundance of the forest. Such knowledge of local ecosystems and cultural ownership contributes to the preservation of biodiversity, as well as the creation of a more sustainable treatment of the environment.

Water is multiple, digitalisation can enable intersectional empowerment

Water is multiple: For some it represents a livelihood, a research object for others, for some an economic good, and for others living entities, such as the unique energy of the Amazon River. In any case, however, digitalisation and technologisation can enable women to work in a more sustainable way and promote the involvement of women in marine science and sustainable water resources management. Technology itself does not automatically lead to equality and empowerment, but it can if it is shaped accordingly. Certainly, more research is required to identify the impediments of digitalization and technology on women working on different bodies of water, as well as a closer look at intersectionality.