



Health Care

Education

Entrepreneurship

Public Safety

Environment



## Case Study

### Pescando com Redes 3G (Fishing with 3G Nets) Promoting Sustainable Fishing and Entrepreneurship through Digital & Social Inclusion

Fishing is one of the primary economic activities in Northeastern Brazil. Many families depend on it for their livelihood, however in some areas the industry has suffered from over-fishing, lack of investment, and old infrastructure. As a result, people's incomes and opportunities have decreased, which has led to the emigration of family members in search of jobs.

Fishing with 3G Nets is a new system that integrates mobile and web-based applications and handheld devices to support sustainable fishing practices, business operations and deliver real-time market information to participating community members in Santa Cruz Cabrália, Bahia, Brazil.

### Challenge

- Poverty, overfishing and potential depletion of fishery resources constitute a real threat to many coastal communities relying on small-scale fisheries.<sup>1</sup>
- Many developing countries still lack adequate infrastructure, including hygienic landing centers, and access to electric power, potable water, and roads. Long supply chains requiring the availability of ice, cold rooms and refrigerated transport are also lacking. These cause a high percentage of fish losses and deterioration of quality, resulting in a consequent risk to the health of consumers.<sup>2</sup>
- Almost half of the people employed in fishing, processing, or production activities associated with small-scale fisheries are women. More than 95 percent of small-scale fishers and related workers dedicated to post-harvest activities live in developing countries. These small-scale fishing communities often face precarious and vulnerable living and working conditions.<sup>3</sup>
- Despite Brazil's extensive coastline, current per capita fish consumption is low at only 6.8 kg/year, and fisheries and aquaculture account for only 0.4 percent of Brazil's Gross National Product (GNP)<sup>4</sup>. Modernized fishing activities could potentially help this industry grow.

### Solution

- Participating fishers and mariculturists have been issued 3G enabled mobile devices with mobile credit to access Vivo's 3G wireless network and a suite of creative applications custom tailored to their needs. They also received IT and sustainability training, access to a community computer lab, and a floating classroom.
- Courses include environmental education with sustainable fishing techniques. Community members learn how to catch alternative species which are abundant and in high demand. This decreases environmental stress on traditionally overfished species, while increasing production and income levels.
- The various applications for the fishers and mariculturists enable the activities below:
  - Wirelessly monitor and communicate information on water conditions such as pH levels, salinity, and temperature that helps with the successful cultivation of oysters.



Main screen of Pescando com Redes 3G mobile application.



The Pataxo Indigenous community is participating in the project.

- The system allows fishers access to state-of-the-art technical assistance from specialists.
- Automatic tracking of income and expenses, which allows the fishers to monitor their profits while still out at sea.
- Fishers can connect directly with local hotels and restaurants for direct sales of the day's catch through an online marketplace. This increases profits by eliminating the need for intermediaries and the expensive storage of fish.
- Access to real-time updates on weather conditions and navigation assistance.
- The applications support governmental sustainable fishing initiatives through the statistical tracking and reporting of the type and number of fish caught.

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### The Technology

- 3G mobile devices, computers and modems utilizing Qualcomm chips.
- Wireless connectivity over Vivo's 3G HSUPA network.
- Specialized mobile and web-based software applications.

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### Project Steering Committee Partners

- **Vivo** provides wireless connectivity through its 3G HSUPA network.
- **United States Agency for International Development (USAID)** provides project support and technical assistance.
- **Instituto Ambiental Brasil Sustentável (IABS)** facilitates project implementation, training and monitoring.
- **Qualcomm's Wireless Reach™ Initiative** is the primary funder and provides project management assistance.

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### Additional Partners

- **The Municipality of Santa Cruz Cabrália, Bahia, Brazil**
  - **ZTE**
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***“The partnership between the United States and Brazil will be strengthened through the application of innovative technology used to foster safety and sustainability of the fishing industry, as well as to improve the economic livelihoods of fishermen.”***

***- Chargé d'Affaires Lisa Kubiske, United States Embassy in Brazil***

<sup>1</sup> “2010 World Review of Fisheries and Aquaculture: Part I.” United Nations Food and Agricultural Organization. <http://www.fao.org/docrep/013/i1820e/i1820e01.pdf>

<sup>2</sup> Ibid.

<sup>3</sup> Ibid.

<sup>4</sup> Food and Agriculture Organization of the United Nations Website: [http://www.fao.org/fishery/countrysector/naso\\_brazil/en#tN9017D](http://www.fao.org/fishery/countrysector/naso_brazil/en#tN9017D)

### Qualcomm's Wireless Reach™ Initiative

Qualcomm believes access to 3G and next-generation mobile technologies can improve people's lives. Qualcomm's Wireless Reach initiative is a strategic program that brings wireless technology to underserved communities globally. By working with partners, Wireless Reach invests in projects that foster entrepreneurship, aid in public safety, enhance the delivery of health care, enrich teaching and learning and improve environmental sustainability. For more information please visit [www.qualcomm.com/wirelessreach](http://www.qualcomm.com/wirelessreach).