



# Wireless Solutions for Fisheries in Senegal (WISE)

## Using Wireless Communications to Improve the Livelihoods of Senegalese Fishing Communities

Ninety percent of the fish available in Senegal is caught by artisanal fisherman, then sold to wholesale fish markets and small-scale fish processors who are predominantly women. Lack of access to timely fish prices at wholesale markets, scant knowledge of improved processing techniques, limited access to financial services, exposure to higher health risks, and poor hygiene at processing sites all hamper the economic growth of these entrepreneurs. Wireless Solutions for Fisheries in Senegal (WISE) utilizes advanced wireless technologies to improve lives in several ways.

### Challenge

- Fishers and fish processors have limited access to:
  - Ocean state and weather information making it difficult to determine when to fish.
  - Market price information and as a result, may not sell their products at optimum prices.
  - Processing best practices and health information.
  - Affordable loans and financial services.
- Fishers face difficulties in communicating their location when faced with life threatening situations while fishing in the ocean.
- Fishers unintentionally cross international border lines and sail to government restricted zones and are penalized for trespassing.

## Senegal

### 2021 Statistics\*

Population (2021 est.)  **16.0 million**

Life Expectancy (2021 est.)  **63.8 years**

GDP Per Capita (2019 est.)  **US\$3,395**

Mobile Penetration (2019 est.)  **108%**

### Solution

- The program developed an electronic market information system and trained data collectors to use mobile devices and 3G connectivity to gather and transmit fish market data, which is then accessible to fishers and processors enabling them to negotiate the best price for their catch or processed fish.
- The program-developed WISE mobile application provides daily weather information, ocean state forecasts, such as wave heights, visibility, wind speed and direction at different times of the day, and navigational resources such as Global Positioning System (GPS) for charting a course to fishing zones and back to landing sites, and is made available to users in French, Swahili and English.
- The WISE app provides fish processing best practices and off-shore safety tips in video formats optimized for use on mobile devices.
- Working with local micro-lending institutions, WISE provides access to affordable loans enabling fish processors and fishers to expand their businesses.
- Fishers can use the GPS feature of the WISE app to communicate their location to family members and rescue teams when stranded in the ocean.

\*Sources: CIA World Factbook (<https://www.cia.gov/the-world-factbook/>)

## Impact



### Beneficiaries to Date

Current WISE beneficiaries include more than 7,000 Economic Interest Groups (EIGs) members who are fish processors and fishermen in Dakar, Mbour, Mballing and Joal.



### New Access to Information

All users now have improved access to affordable loans, current market prices, fish processing best practices, health education materials, daily ocean state forecast, and weather information.



### Improved Annual Income

Participating fishermen reported increasing their annual income by about 35% (~US\$550/year/fishermen) as a result of using the WISE app and improved access to financial service.



### Increased Fish Processing Capacity

After using the application and services provided by the program, fish processors reported on average a 100% increase in their fish processing volume. One participant reported an increase volume from 100 kilos per month to 1,000 kilos per month, resulting in a monthly revenue of about CFA 150,000 (~US\$270).

## Program Stakeholders



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