



# 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 and 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—including creating improved income opportunities for both fishers and processors by providing participants increased access to affordable loans and mobile money; access to both fish market information and processing best practices information; improving the health and wellbeing of those with access by providing health and best practices information; and improving the safety and wellbeing of fishermen by providing them daily navigational resources such as ocean state forecasts.

### 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 2018 Statistics

Population (2017 est.)

 **14.7 million**

Life Expectancy

 **62.1 years**

GDP Per Capita (2017 est.)

 **US\$2,700**

Mobile Penetration

 **105.5%**

### 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.
- The WISE app provides fish processing best practices and offshore 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 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/library/publications/the-world-factbook>); mobile penetration data provided by Ovum World Cellular Information Service and based on market intelligence.

## Impact



### Beneficiaries to Date

Current WISE beneficiaries include more than 2,000 Economic Interest Groups (EIGs) members who are processors and fishermen in Mbour, Mballing and Joal. The program is expanding to Dakar to reach an additional 50 EIGs serving approximately 1,000 new beneficiaries.



### 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.



### Increased Fish Processing Capacity

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



### Improved Annual Income

Participants reported increasing their annual income by about CFA 300,000 (~US\$550) as a result of using the WISE app and improved access to financial services.

## Technology

- 3G/4G-enabled Android smartphones with GPS capability
- Specialized mobile and server applications developed in French, Swahili and English

## Program Stakeholders



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