

# "Enhancing Fishermen's Safety and Catchment through Weather Field School for Fishermen (WFSF)"

A Case Study on the Application of the WMO Capacity Development Framework (WCDF)

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# Weather Field School for Fishermen (WFSF)

"Fisherman Weather Field School is an ocean literacy programme that provides education for fishing communities to support understanding of the information provided by weather and ocean climate services."



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Established in 2016 with the key objective of ensuring that fishermen have comprehensive marine meteorology knowledge, including maritime weather and climate. This information is crucial for supporting the safety of fishermen and coastal communities during marine activities.

# **Concept of WFSF in Indonesia**

IMPROVED UNDERSTANDING OF WEATHER INFORMATION

BMKG

EASY ACCESS TO BMKG INFORMATION ACCURATE AND EXTENDED WEATHER INFORMATION

SHAPING A COMMUNITY OF WEATHER-CONSCIOUS FISHERMEN



Searching

Catching

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# Implementation of WFSF in Indonesia



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Since 2016 - 2024 SLCN has been held in 241 locations spread across 38 provinces in Indonesia with a total of 18.222 participants.

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#### WFSF & WCDF: Four Dimensions of Capacity Development



### TECHNOLOGY SUPPORT FOR WFSF (INA-WIS)

Indonesian Weather Information for Shipping (INA-WIS)

BMKG



**Fishing ground information** refers to data on **potential fishing locations**, derived from environmental analysis such as: sea surface temperature, chlorophyll concentration, ocean currents, and fish migration patterns.

#### Integrating CDS Principles in Weather Field School for Fishermen



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INSTITUTIONAL AND HOLISTIC

- Engages multiple stakeholders: BMKG, local governments, NGOs, academia, and international partners (WMO, IOC-UNESCO).
- Combines traditional knowledge and modern meteorological technology for better decision-making.
- Impact: Improved operational safety and efficiency through community-driven meteorological literacy.



#### SUSTAINABILITY AND FUNDING

- Long-term commitment from BMKG, as part of Indonesia's National Priority Program (fully funded).
- Expansion into international initiatives (Philiphines and South America)
- Community-driven sustainability: Alumni networks via WhatsApp & Community of Practice (CoP).



PRIOTITAZION AND TARGETING

- Data-driven targeting through hazard mapping and socioeconomic assessments.
- Focuses on high-risk coastal zones exposed to extreme weather events and dependent on fisheries.



EFFICIENCY AND INNOVATION

- Utilizes meteorological technology such as InaWIS, AI-driven forecasting, and satellite data.
- Innovations:
   Fishermen can select specific fish species in InaWIS for targeted location predictions.
- Cost-effectiveness:
   Average training cost per participant: \$150.



COOPERATION AND EQUITY

- Multi-level collaboration: BMKG, WMO, OTGA, IOC-UNESCO, national & local agencies.
- Promotes gender inclusivity and participation of small-scale fishermen in remote areas.
- Future
   Consideration:
   Women's equity in
   training programs is
   an essential long term goal.



RESULT BASED EVALUATION

- Behavioral impact assessment: Tracking fishermen's use of weather data in decision-making. Recommendation:
- 1. Measure long-term reductions in weather-related fishing accidents.
- 2. Evaluate improvements in economic conditions (yield, cost-efficiency, fuel optimization).
- 3. Strengthen community resilience and adaptive capacity.

### **Expected Outcome**

(Riama NF & Amrina D, 2022)

Improving knowledge about weather climate literacy and climate change and their use for fishermen and coastal communities

Reducing accidents and the risk of work accidents due to extreme weather



# Increase business certainty and sustainability

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## **Success Story WFSF**

#### **BMKG** honored Dewa as an inspirational figure.

"After receiving information from BMKG about warning for Cyclone Seroja, I immediately disseminated the information to the villagers. I am grateful that I was able to share the information, and many lives were saved, thanks to BMKG's warning."

"In addition to ensuring the safety of the residents, I also gained a deeper understanding of marine weather. This knowledge helped me avoid being detained by the Australian Coast Guard, which frequently occurred in the past due to weather conditions pushing me out of territorial waters.

With my enhanced understanding of weather forecasts, I am now able to educate other fishermen on how to stay safe."



Muhammad Mansur Dokeng (Dewa) Resident Oesapa Village, East Nusa Tenggara, Indonesia

# The Way Forward WFSF



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The benefit of BMKG Fisherman's Weather Field-School (SLCN), could be felt also by wider global communities. Collaborates with Ocean Teacher Global Academy (OTGA) in organizing other Ocean Literacy activities to support implementation Ocean Literacy Program which participants from several countries in September, 2023.

- This program also support in protecting the ocean observation equipment installed on the ocean is crucial to prevent vandalism.
- WFSF has been endorsed by UN Decade of Ocean Science for Sustainable Development since June 2022
- WFSF has proven to be successful in Indonesia and a pilot is proposed to replicate the initiative in the Philippines and South America countries.



#### Upcoming Plans

- 1. Expanding ocean literacy to diverse communities, starting with "Ocean Literacy Programme for Ferry Operators".
- 2. Implementing FWFS in collaboration with OTGA by replicating its successful model in Argentina.

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# Thank you

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