

From Early Warning to Early Action:

Community response to impact-based forecasts and warnings in El Salvador

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The background image is a composite. The top half shows a control room with several people sitting at a long desk, looking at multiple computer monitors displaying various data, including what appears to be satellite imagery or weather maps. The bottom half shows a flooded area with a group of people standing in the water. Some people are wearing life jackets, and one person is holding a large, colorful umbrella. The overall scene suggests a focus on disaster preparedness and emergency response.

End-to-End People Centered Multi-Hazard Impact-based Early Warning Systems

Connecting weather science and information to
the people in the ground

Risk communication is any purposeful exchange of information about risks between interested parties with the goal to foster preparedness in individuals, groups, and institutions in ***mobilization (wanting to act) and empowerment (knowing what to do).***





Weather

Ready

Nations

The aim was to leverage the existing capabilities of these local observers and communities to better understand and anticipate the likely human and socio-economic impacts associated with severe weather and communicate those impacts in an effective manner, delivering accurate and easily understandable information, data services and products that can be integrated into the decision-making process.

El Salvador is the smallest and most densely populated country in Central America and is amongst the countries most exposed to multiple hazards and at relatively high mortality and economic risk from multiple hazards.



LOCAL OBSERVERS SURVEY (2021)

Population:

500 Local Observers
(Observatory's estimate, 2021)

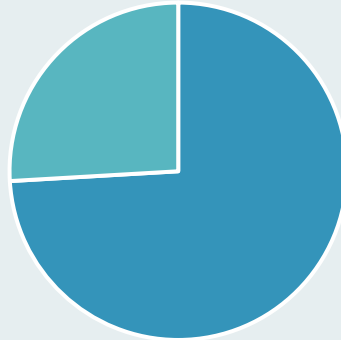
Survey participation (sample):

54 Local Observers
Confidence Level: 95%
Margin of error: 12.35%

Time frame:

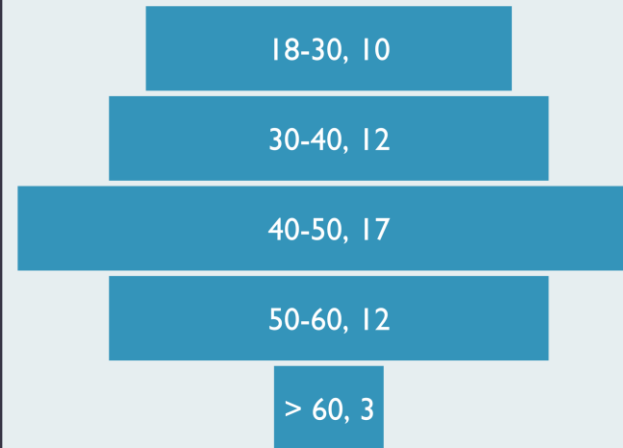
July-September 2021

Gender

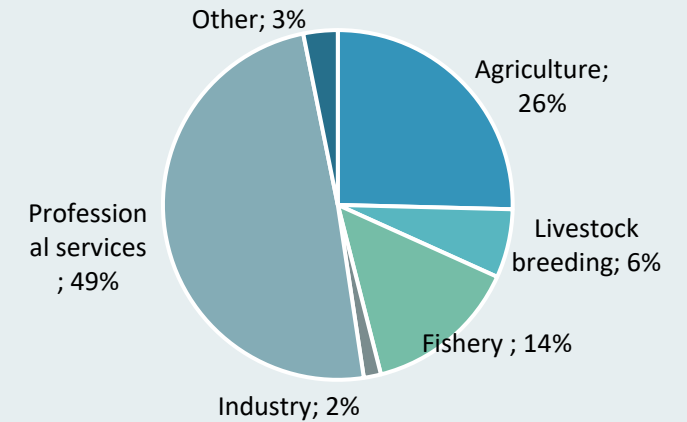


■ Male ■ Female

Age group



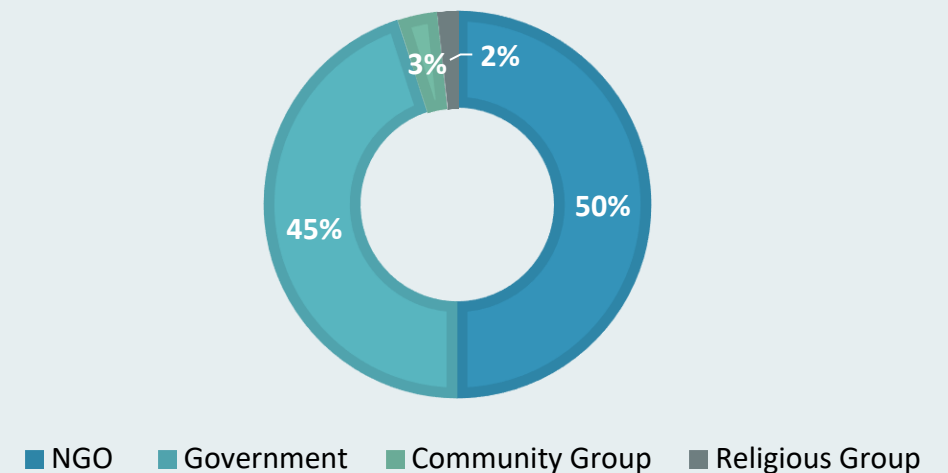
Livelihoods or economic activity



WHAT TYPE OF TRAINING HAVE YOU RECEIVED?



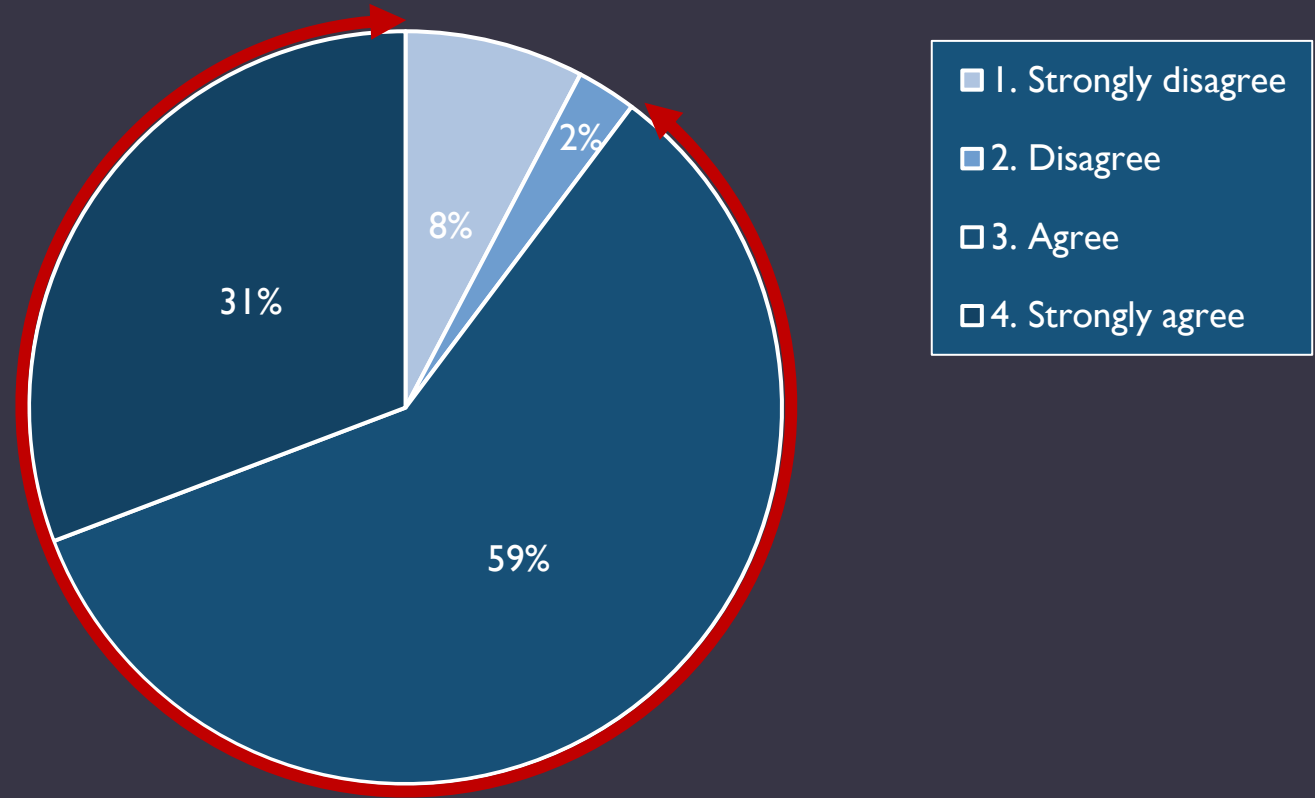
WHO PROVIDED THE TRAINING?



Compared to traditional weather forecasts, how would you rate impact-based forecasts?

90% Say they are more accurate

By MARN providing me with trusted, consistent and reliable information helped my community to be better prepared for severe weather events - Observer

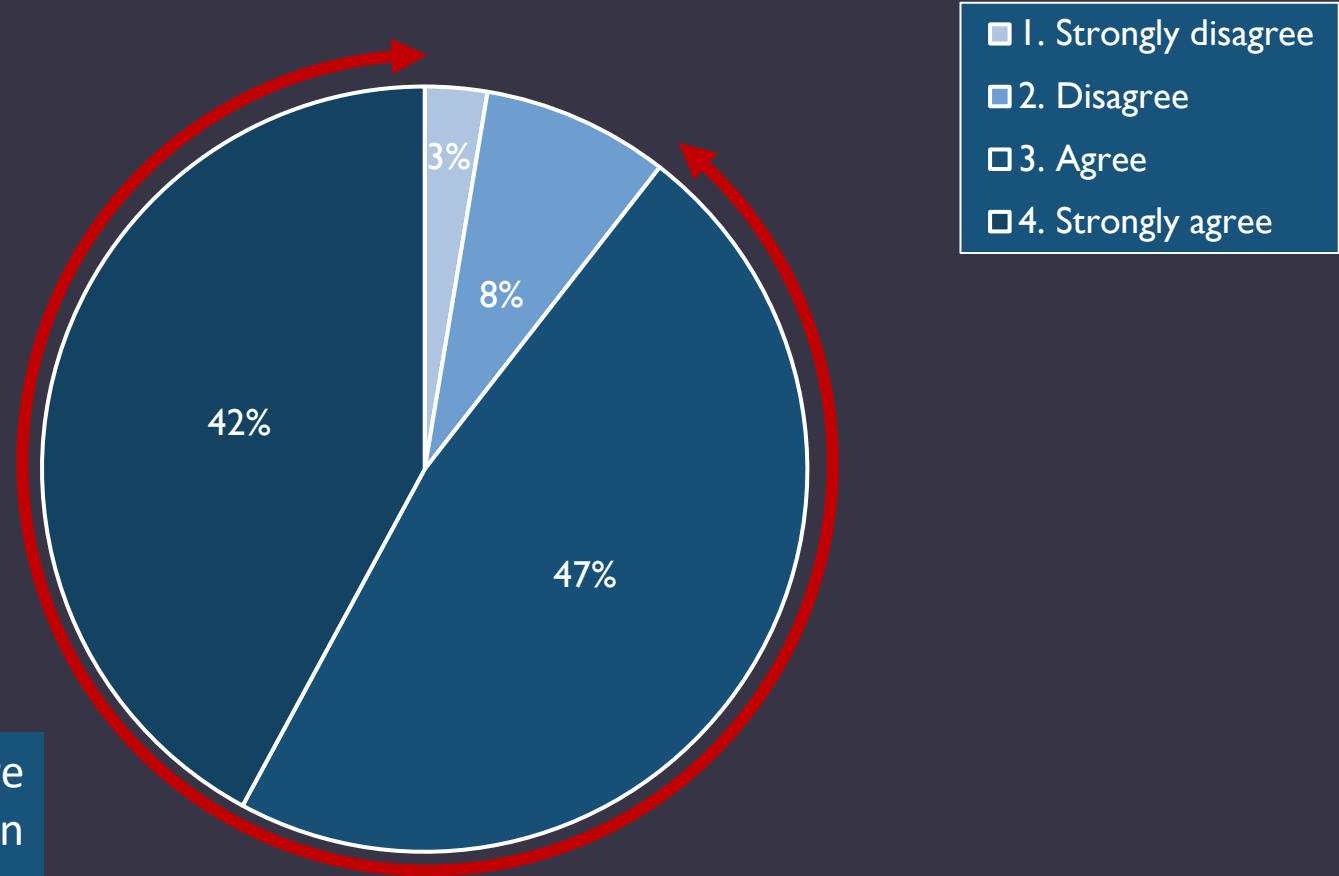


Compared to traditional weather forecasts, how would you rate impact-based forecasts?

89% Say they are more timely

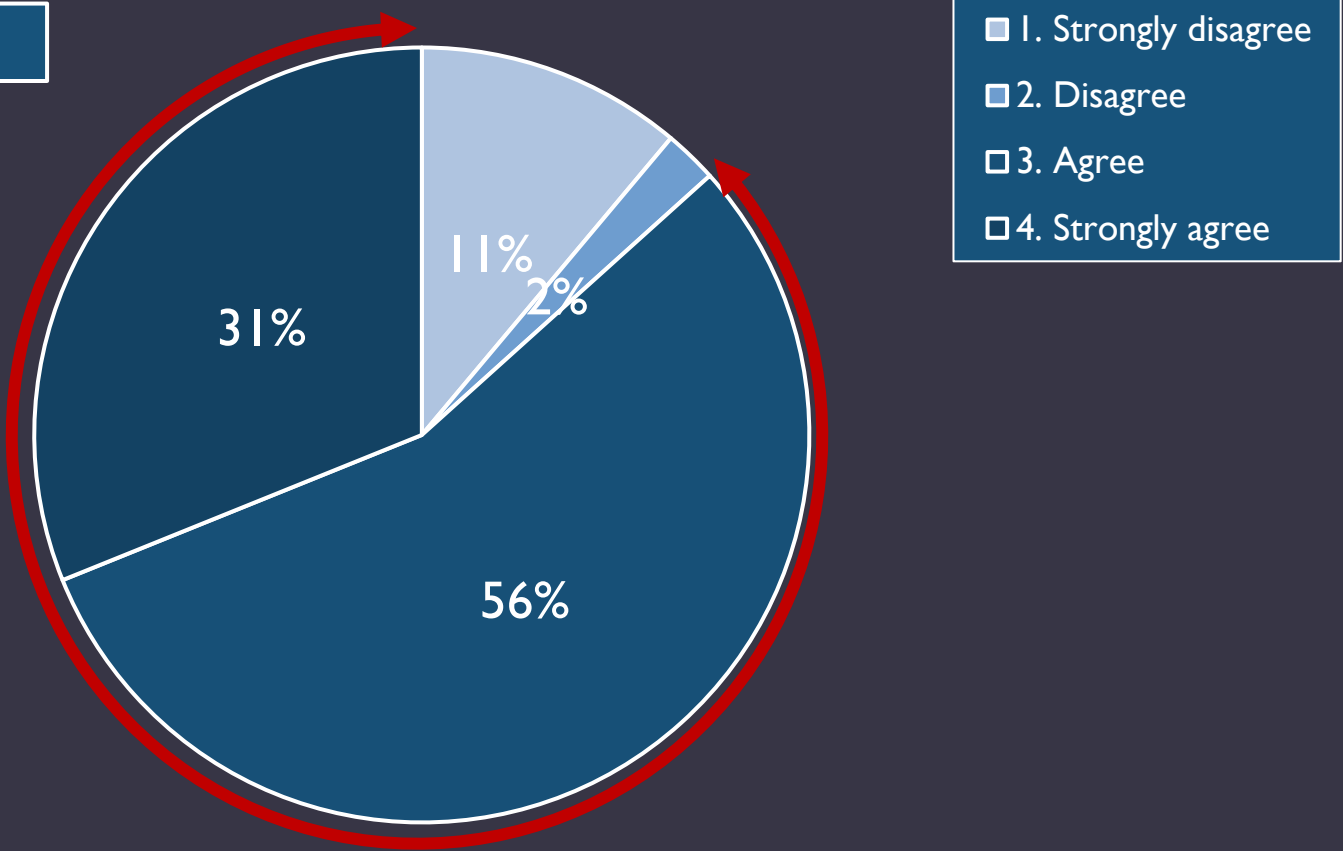
A first responder from San Miguel received impact-based forecasts and warning at long lead times. They started working with other community members to identify critical areas across the San Miguel River where flooding could occur.

They placed sand bags along the river bank where flooding could occur or where the riverbank protection structures were damaged. This mitigation action prevented floods and helped safeguard many communities along the river, protecting the lives of many, their livelihoods and assets.



Compared to traditional weather forecasts, how would you rate impact-based forecasts?

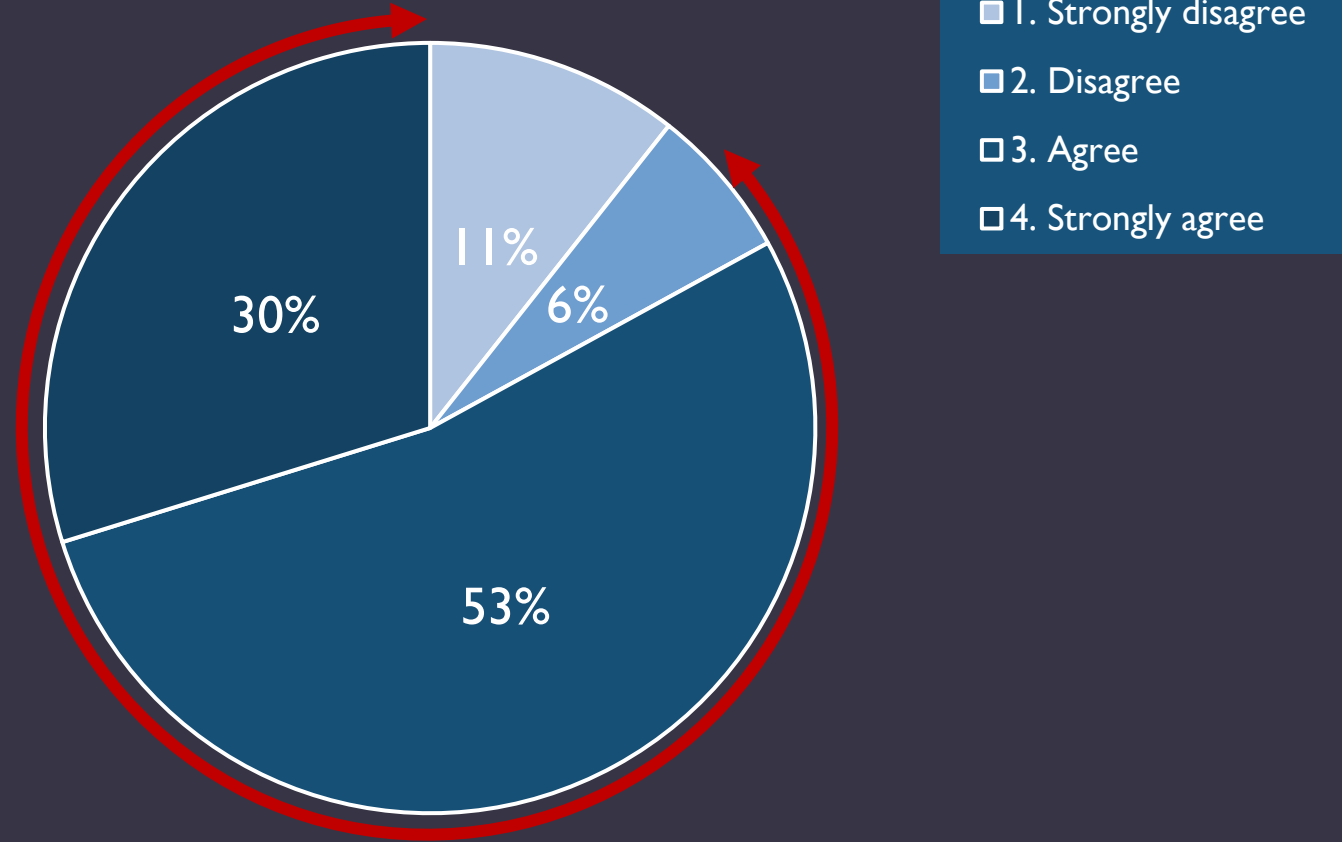
87% Say they easier to understand



Compared to traditional weather forecasts, how would you rate impact-based forecasts?

83% Say they provide more relevant information

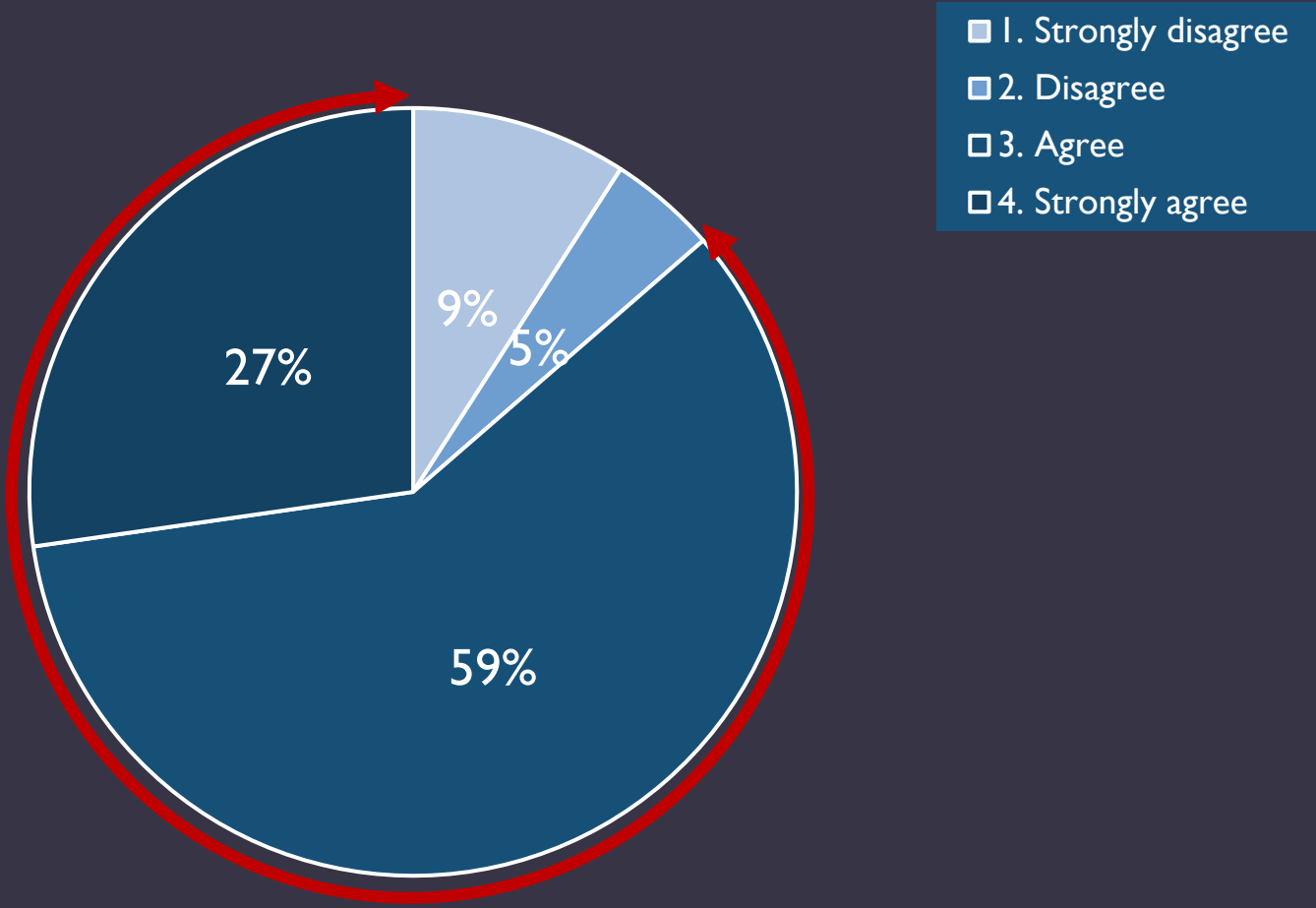
For example, the more relevant information helps with decision making



Compared to traditional weather forecasts, how would you rate impact-based forecasts?

86% Say they better reflect how my community will be affected (more relevant to me).

DM

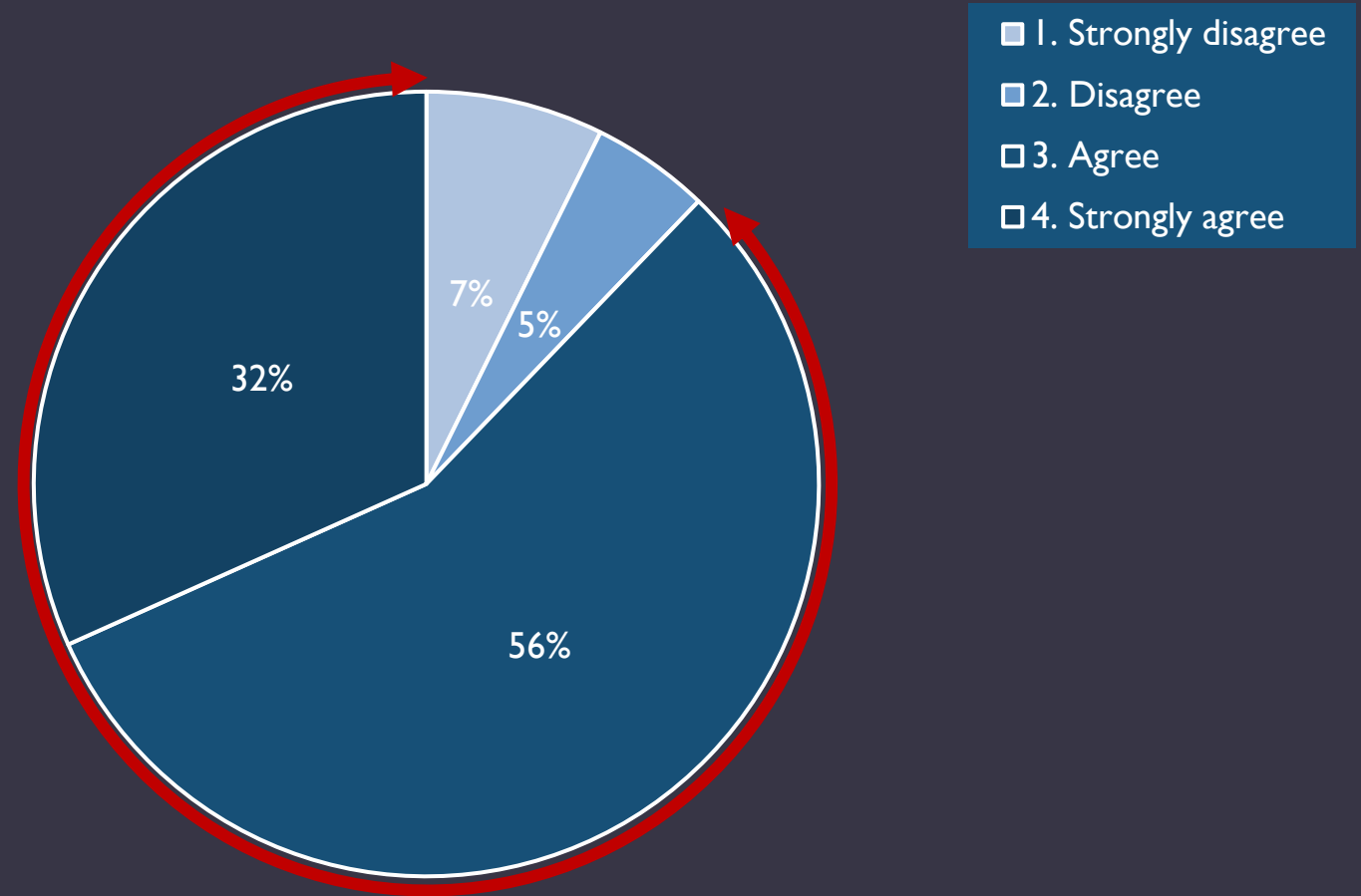


Compared to traditional weather forecasts, how would you rate impact-based forecasts?

88% Say they can better decide on actions that can be taken to reduce community impacts

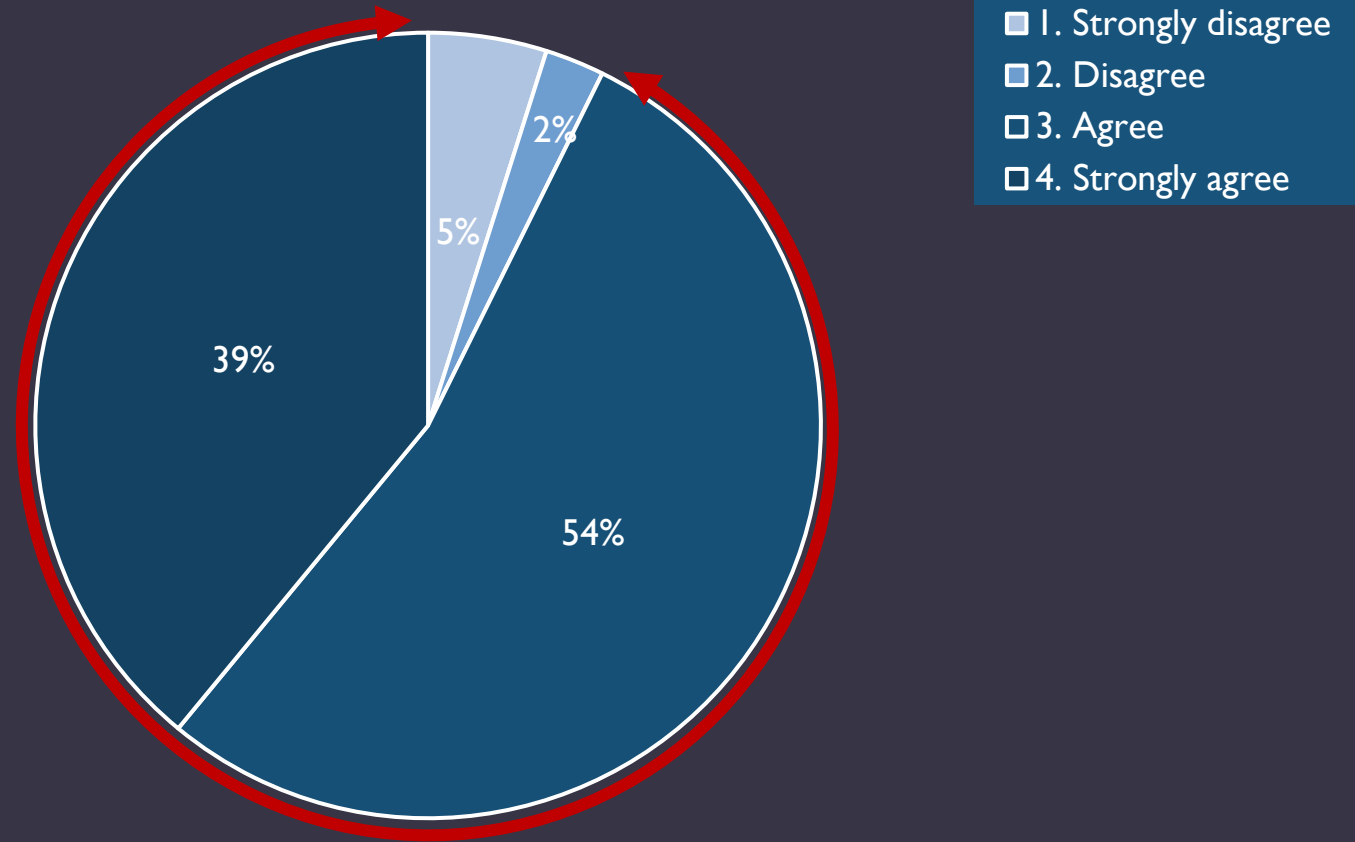
First responders in San Miguel prepare emergency supplies depending on the type of impact expected. For example, if flooding along the San Miguel River is expected, they prepare their water rescue equipment and monitor critical points along the river to identify and mitigate the risk of flooding.

If impacts from winds, like fallen trees are expected, they put “machetes” (bowie knives) and ropes in their transportation units. And if urban flooding is expected, they clean up and preposition resources in the areas they have identified as critical (where urban flooding is frequent) so they can respond more effectively and assist the population in need.



Compared to traditional weather forecasts, how would you rate impact-based forecasts?

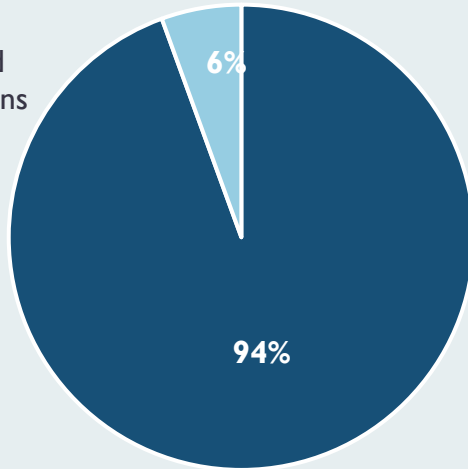
93% Say they better decide what action need to be taken to protect themselves and their community



LOCAL OBSERVERS SURVEY (2021): IMPACT-BASED FORECASTS

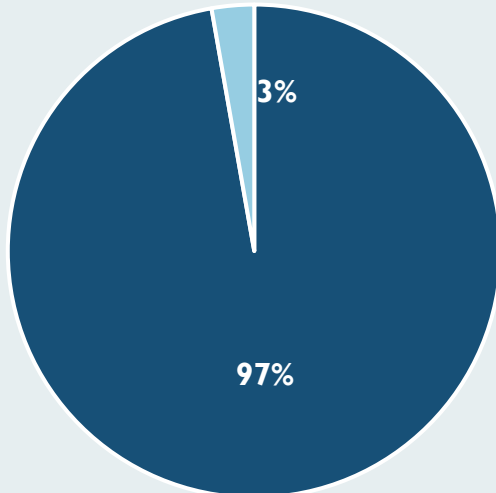
If you had access to impact-based forecasts during a severe event, did you take protective actions or change plans because of the forecast or warnings issued?

■ Yes ■ No



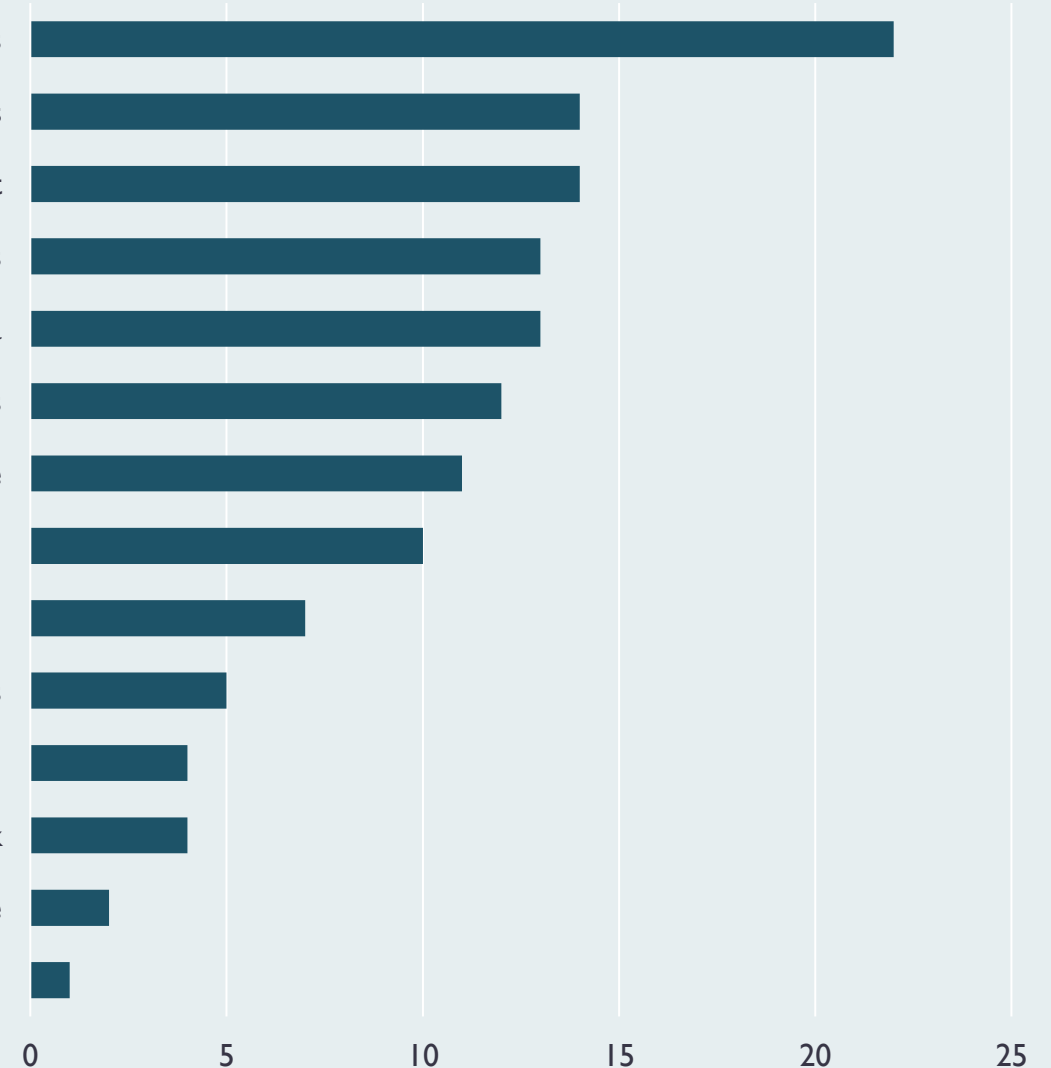
In your opinion, do impact-based forecasts facilitate decision-making and protective actions?

■ Yes ■ No



What were those actions?

Prepare emergency supplies
Cancel planned activities
Stay at home, don't go out
Put belongings in safer places
Evacuate risk area
Avoid certain streets and roads
Sleep in a safer place
Drive with higher precaution
Others (be informed)
Modify work or travel plans
Others (tell others)
Don't go to work
Don't drive
Others (identify areas at risk)



Perceived challenges and benefits of implementing WRN MARN – El Salvador



Identifying users' needs for early action



Identifying impacts of interest and establishing common language



Enhancing Technology and Communication Tools



Improving processes through Standard Operating Procedures



Training and Outreach



Verification and feedback

Challenges and Benefits of implementing WRNs MARN – El Salvador

Benefits

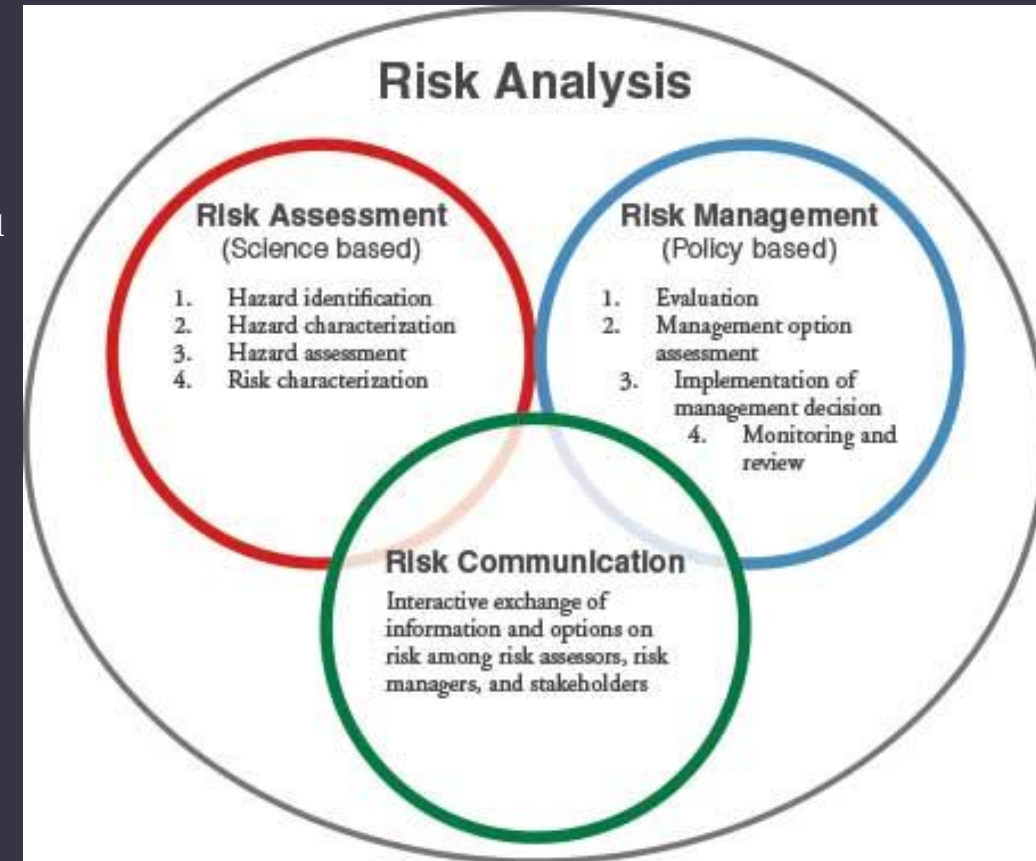
- The WRN program is perceived to be integral and integrative, as it has facilitated the integration of processes and projects, and it has encouraged coordinated work within the institution - between different technical areas, and across different sectors, and has led to collaborative processes, continuous exchange and improvement.
- It has helped improve the quality of the forecasts
- It has facilitated the establishment of verification and continuous improvement processes.
- It has facilitated decision making and protective actions
- It has helped improve risk communication
- It has promoted greater coordination at the regional level

Main challenges

- Improve communication strategy for different target audiences.
- Strengthen capacities and raise awareness at different levels to improve risk understanding (at the technical and community level)
- Improve impact assessments, data collection and analysis to improve models and impact-based forecasting scheme.

Best Practices for effective risk communication

- Have an informed plan.
- Offer options for reducing risk that address barriers to action.
- Know your audience; if possible, engage them in advance so you can listen and learn what matters to them.
- Work with trusted sources and the public.
- Test messages or products; evaluate performance.
- Speak to the audience's interests, not yours.
- Use multiple ways to communicate.
- Explain the risk in a manner that is clear and appropriate for the audience.



What questions do you have?