



# Information and communications technologies (ICTs) and Sustainable Fisheries Development -Introduction and General Background-



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# Information and communications technologies (ICTs) -Introduction-



- The importance of information communication technology (ICT) **cannot be denied**
- This technology can be established in developing countries **through government and different related organizations**
- The new technologies can
  - **make an impressive growth**
  - **bring a change**
  - **create a knowledge based society**
- Information communication technologies (ICT) are set of **tools that assist the capturing, storage, processing, transmission and display** of information by **electronic mean of technologies.**





# Information and communications technologies (ICTs) -introduction-



- Information and communications technologies (ICTs) refers to *technologies that facilitate communication and the processing of information by electronic means and includes everything from radio and television to telephones (fixed and mobile), computers and the Internet*
- Digital and other electronic technologies are **transforming our economies, societies and people's lives**
- ICT has a profound impact on the information and communications activities that **have always been central to sustainable development**



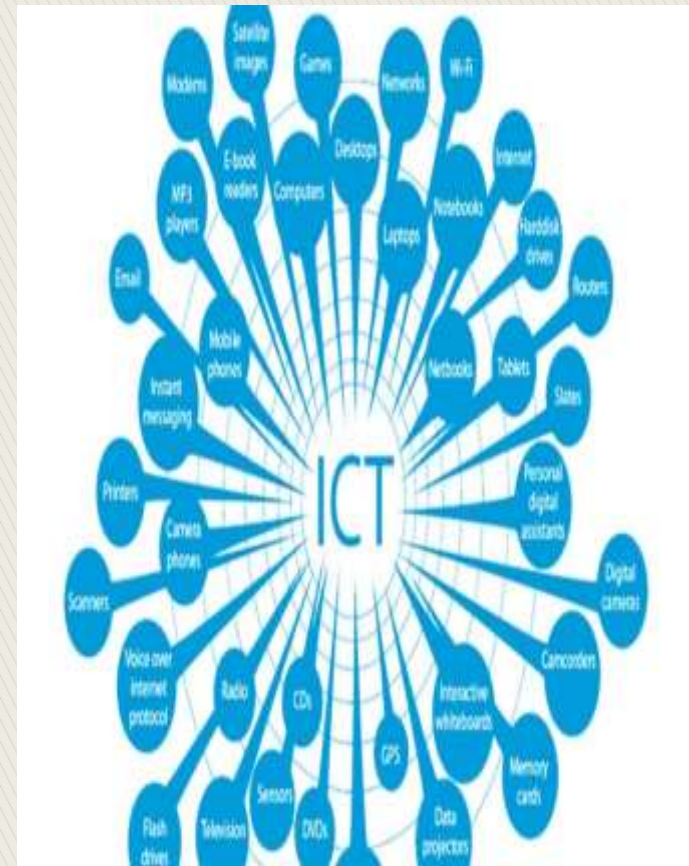
**Like air and water, connectivity has become so pervasive that it is weaving its way into every aspect of our lives.**



# ICT for Sustainable Development



- ❑ Socio-economic developments will not be **sustainable without proper monitoring and controlling**
- ❑ Such development will lead to **economic losses and waste of natural resources**
- ❑ Monitoring and controlling **requires accurate information on time**
- ❑ **Collection** of timely information, **processing** them and **distributing** among various organizations are essential
- ❑ Therefore Information and Communication technology (ICT) has a **significant role to play in sustainable development**





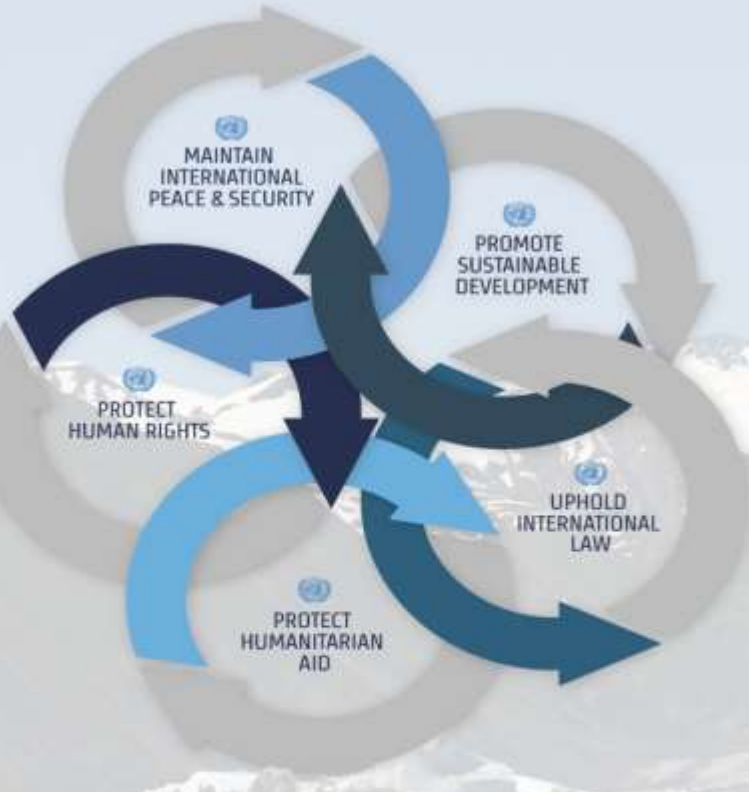
# ICT Opportunities for accelerating action on SDGs



What the UN does...

What Member States need to do...

## SUSTAINABLE DEVELOPMENT GOALS



Technology and Innovation

ICT Strategy

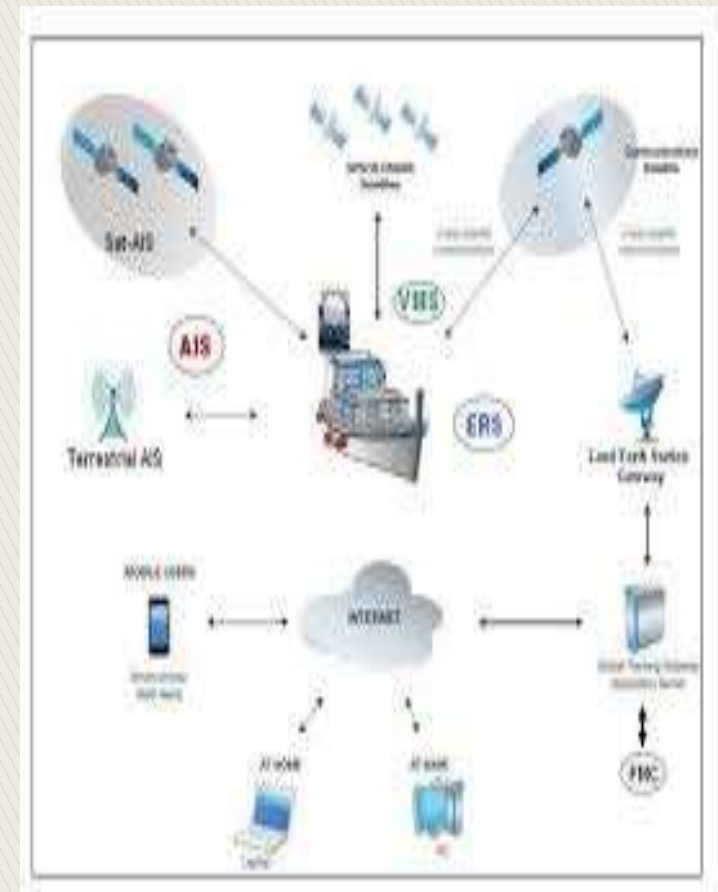


# The ICT in the development of fisheries



What do fish and fishing have to do with computers, internet and communications?

- Well, on the outset, nothing... **however, information technology is playing a significant role in the modernization and growth of the fishing industry**
- This traditional industry is facing **economic and environmental pressures, as well as ever changing regulations**
- Such pressures have led the fishing industry **to invest in information technology to maintain sustainability** and streamline its operations and be more effective and efficient.

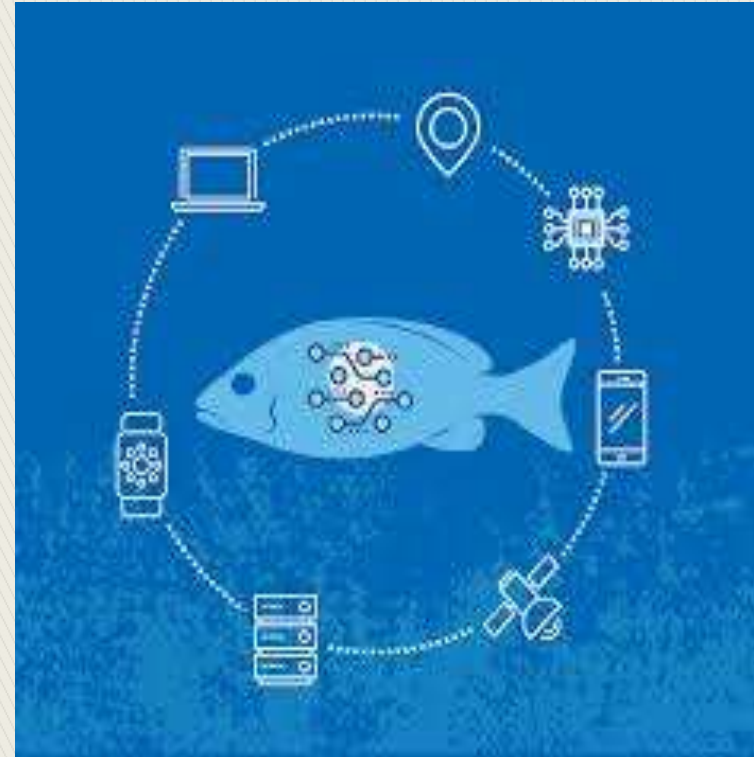




# The ICT in the development of fisheries



- ICT is providing fisheries with:
  - New ways to effectively monitor and control fishing fleets
  - Software to ease catch management
- Technology has also found its way to **the fish markets and supply chains**
- Another important factor in which ICT is helping in is in **the collating of necessary information required to regulate, report and plan.**





# ICTs connection with the SDG14



## GOAL 14: LIFE BELOW WATER

14 LIFE BELOW WATER



BY: MARGREET DE HEER

MOST OF THE PLANET'S SURFACE IS WATER! HERE'S WHAT WE MUST DO TO PROTECT THE OCEANS:



### 1. REDUCE AND PREVENT POLLUTION



### 2. PROTECT ECOSYSTEMS



### 3. END OVERFISHING AND ILLEGAL FISHING



### 4. HELP FISHING COMMUNITIES TO DEVELOP SUSTAINABLE FISHING PRACTICES



### 5. SCIENTIFIC COOPERATION

- TO INCREASE KNOWLEDGE
- TO IMPROVE TECHNOLOGIES
- TO MINIMIZE OCEAN ACIDIFICATION



### 6. MAKE AND MAINTAIN INTERNATIONAL LAWS AGREEMENTS







## SDG14 Life Below Water



ICTs can play a role in the conservation and sustainable use of the oceans:

- ❑ Internet and satellite maps **can be used** to chip and track migration patterns of endangered sea-animals & better understand lifetimes, loss and predation
- ❑ **Monitor** global fish-stocks, oxygen levels, algal blooms, pollution, temperature & currents
- ❑ **Big data** can be used **to analyze** the oceans, in terms of biodiversity, pollution, weather patterns or ecosystem evolution

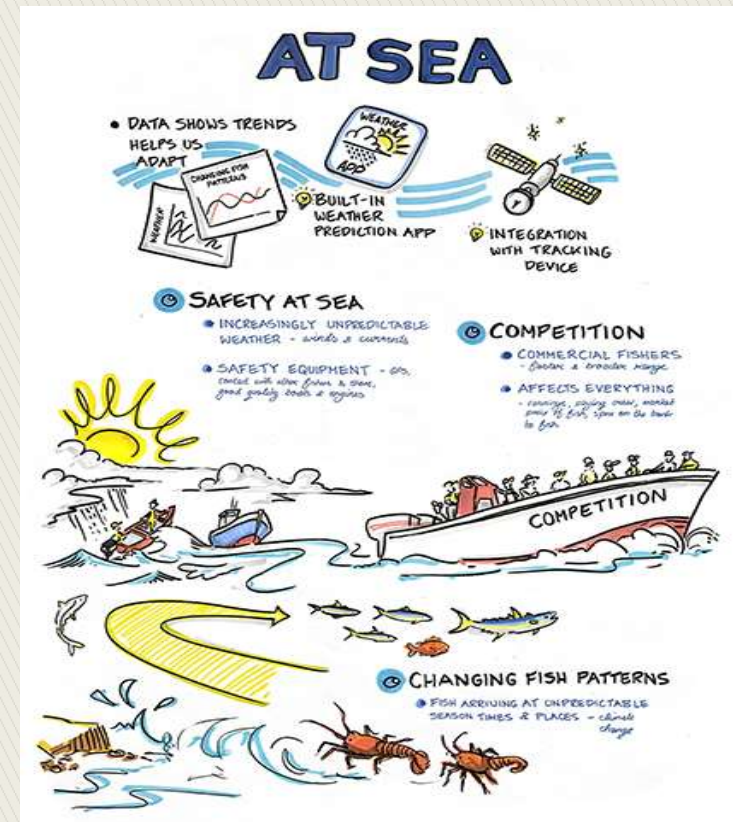




# The role of ICT in the development of the fishermen community



- ❑ ICT can play an important role in **enhancing the capacity of people specially fishermen community**
- ❑ There are many factors such as poverty illiteracy and unawareness **is big problem among fishermen about ICT**
- ❑ ICTs have played a good role in the **development of the fishermen community**
- ❑ However, still there are **many problems and challenges are with this community**
- ❑ Most of the fishermen
  - ❑ **have no access of electricity**
  - ❑ **some of them have no mobile phones**
  - ❑ **Many of them have no proper guidance regarding the use of communication tools at sea.**





# Technology adaptation



Technology	Application	Implications-supports/contributes to
<b>Satellite: Positioning</b>	<ul style="list-style-type: none"><li>• Pinpoint ship's position</li><li>• Monitoring fishing vessels</li><li>• Policing protected zones</li></ul>	<ul style="list-style-type: none"><li>• Sustainable fisheries management</li><li>• Transparency - meeting regulation</li><li>• Increases fishing efficiency</li></ul>
<b>Satellite: Remote sensing</b>	<ul style="list-style-type: none"><li>• Locating/monitoring fishing grounds and proxies e.g. water temperature</li></ul>	<ul style="list-style-type: none"><li>• Sustainable fisheries management</li><li>• Efficiency of catch finding</li></ul>
<b>Satellite: Communication</b>	<ul style="list-style-type: none"><li>• Transmission of catch data to shore</li><li>• Vessel location in emergencies</li><li>• Emergency &amp; other communications</li></ul>	<ul style="list-style-type: none"><li>• Health and safety</li><li>• Supply chain efficiency</li></ul>

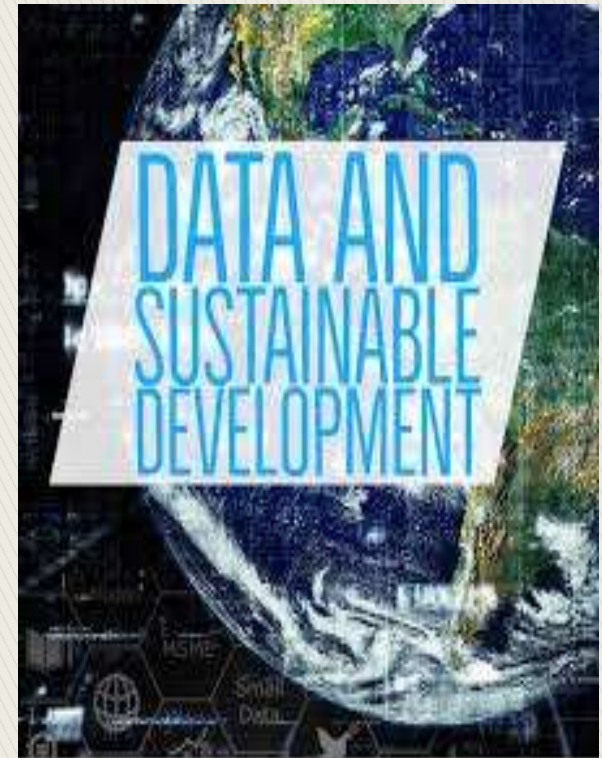


# Information sharing A fundamental need



-1-

- ❑ Food and livelihoods security issues and the lack of extension support for fishers and fish farmers can be addressed **through information networks**
  
- ❑ New opportunities can emerge from **combining mobile and newer networking technologies**
  
- ❑ ICTs are a **fundamental development tool** to support information sharing, collaboration and dialogue leading **to increased participation and ownership**
  
- ❑ ***"It is not enough to generate information alone but it is also necessary to ensure that the required information"***
  - ❑ ***Is delivered to the end users***
  - ❑ ***At the earliest***
  - ❑ ***With the least dissemination loss.***





# Information sharing A fundamental need



-2-

- ❑ The data and information that form the knowledge base of fisheries and aquaculture are **continually changing and extending as gaps are identified, prioritized and filled**
- ❑ Modern information and communication technologies (ICTs) **have had a profound impact on the ways** in which information is produced, stored and transmitted
- ❑ The rate of development of these technologies **will probably not slow down**
- ❑ However, the information capacity in many developing countries in terms of
  - ❑ **ICT infrastructure,**
  - ❑ **Access to relevant information**
  - ❑ **Skills required to participate fully in the global information society**



**REMAINS INADEQUATE**



# Problem in Using ICT in fishries



- ❑ Lack of regular power supply
- ❑ Lack of awareness
- ❑ High cost
- ❑ Lack of training
- ❑ Lack of skills to operate
- ❑ Lack of enables govt. policy
- ❑ Low scale fishery production
- ❑ Lack of training on internet

Achieving the U N SDGs will require a step change in (ICT)infrastructure, access and affordability



## Thanks for your attention

It is time to add a third line to the famous adage:  
*"Give a man a fish and he'll eat for a day; teach a man to fish and you feed him for a lifetime,"*

With an addendum:

➡ *"Encourage innovation and new technologies for fisheries and we can feed the world sustainably!"*

Representative Sam Farr

