

Disaster warning to Indian Fishermen through IRNSS

ICG-2
2007

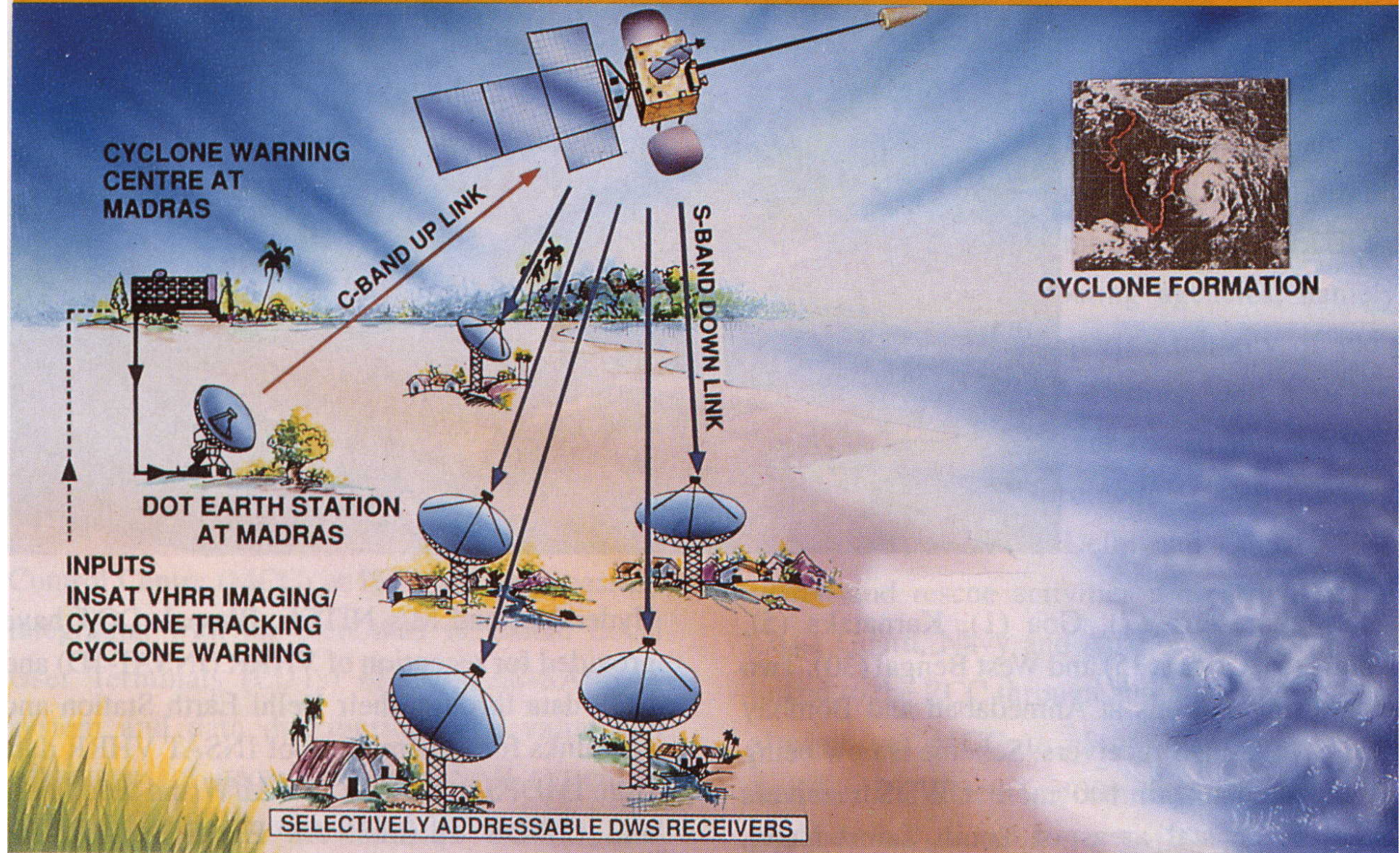
Need

- India has more than 7000 km coastline
- Indian EEZ is 225 Km
- There are more than 200,000 small motorized boats of 20 feet length
- Fishermen are out in the sea sometimes more than a week
- Fishermen carry HF radio sets
- All India Radio beams from the coastal stations are generally pointed towards landmass and small coverage in the sea due to back lobe

Need

- India has a unique satellite voice paging system of Cyclone warning messages for remote Fishing villages
- This is a selective broadcast transmission in the local language of the villagers

CYCLONE WARNING AND DISSEMINATION SYSTEM



Digital Cyclone Warning Receiver



- But during each cyclone many life and boat is lost due to lack of information reaching the fishermen out in the sea
- There is a need to provide a cheap solution to reach cyclone warning message to the fishermen out in the sea

Need

- Following should be the minimum feature of the required system
 - Location based Alert
 - Satellite broadcast based solution
 - Low cost
 - Battery operated system
 - Operation in marine environment
 - Alert in local language

Existing Port warning signals number wise

1. DISTANT CAUTIONARY(*There is a region of squally weather in which a storm may be forming.)*
2. DISTANT WARNING(*A storm has formed.*)
3. LOCAL CAUTIONARY(*The port is threatened by squally weather.*)
4. LOCAL WARNING (*The port is threatened by a storm but it does not appear that the danger is as yet sufficiently great to justify extreme measures of precaution.)*

Existing Port warning signals number wise

5. DANGER (*The port will experience severe weather from a cyclone expected to move keeping the port to the left of its track.)*
6. DANGER (*The port will experience severe weather from a cyclone expected to move keeping the port to the right of its track.)*
7. DANGER (*The port will experience severe weather from a cyclone expected to move over or close to the port.)*
8. GREAT DANGER (*The port will experience severe weather from a severe cyclone expected to move keeping the port to the left of its track.)*

Existing Port warning signals number wise

9. GREAT DANGER (*The port will experience severe weather from a severe cyclone expected to move keeping the port to the right of its track.)*
10. GREAT DANGER (*The port will experience severe weather from a severe cyclone expected to move over or close to the port.)*
11. FAILURE OF COMMUNICATIONS
(*Communications with the Meteorological Warning center have broken down and the local officer considers that there is danger of bad weather.)*

Concept of Fishermen location based Alert

- The Indian Coastal area and adjoining sea can be mapped on virtual 5 x 5 deg Grid as is done for GAGAN
- Each Grid having unique number
- Number code Alert associated with each grid number could be broadcast
- IRNSS broadcast channel will be used for this

Concept of Fishermen location based Alert

- The IRNSS receiver calculates its position
- It identifies the grid where it is located now
- It decodes the alert signal for the grid and the neighboring grids
- It presents the Alert signal in the local language either through built in LCD display or through built in audio amplifier.

