



# Food and Agriculture Organization

## Use of SMS for Surveillance



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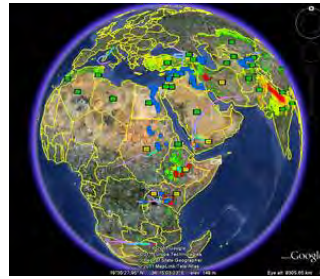
# FAO Wheat Rust Disease Global Programme

(BGRI, IFAD, CIMMYT, ICARDA, AARHUS Univ. +)

- Preparedness and contingency **planning**
- Surveillance and early warning
- **Variety** development and registration
- **Seed** multiplication and distribution
- Integrated **management** of rusts by **farmers**




# Surveillance support



- ✓ Support to Global Rust Monitoring System
- ✓ Collaboration with CIMMYT, ICARDA and AARHUS University on Global Rust Monitoring system
- ✓ Support to countries for surveys
- ✓ Rapid surveillance for emergency response !



# Why SMS?

- Rapid response requires
  - Effective coordination and planning
  - Wide coverage for monitoring
  - Quick warning and decision making
  - Field data
    - Reliable
    - Rapid
  
- SMS  Rapid, wide coverage



# Structure of the system

- SMS gateway tool and software,
- An operation unit based at Ministry,
- Network of extension officers (and research institutes)

## **Pilot activity:**

- Central Anatolia
- Six districts from five provinces, namely Ankara, Konya, Eskisehir, Sivas and Kayseri

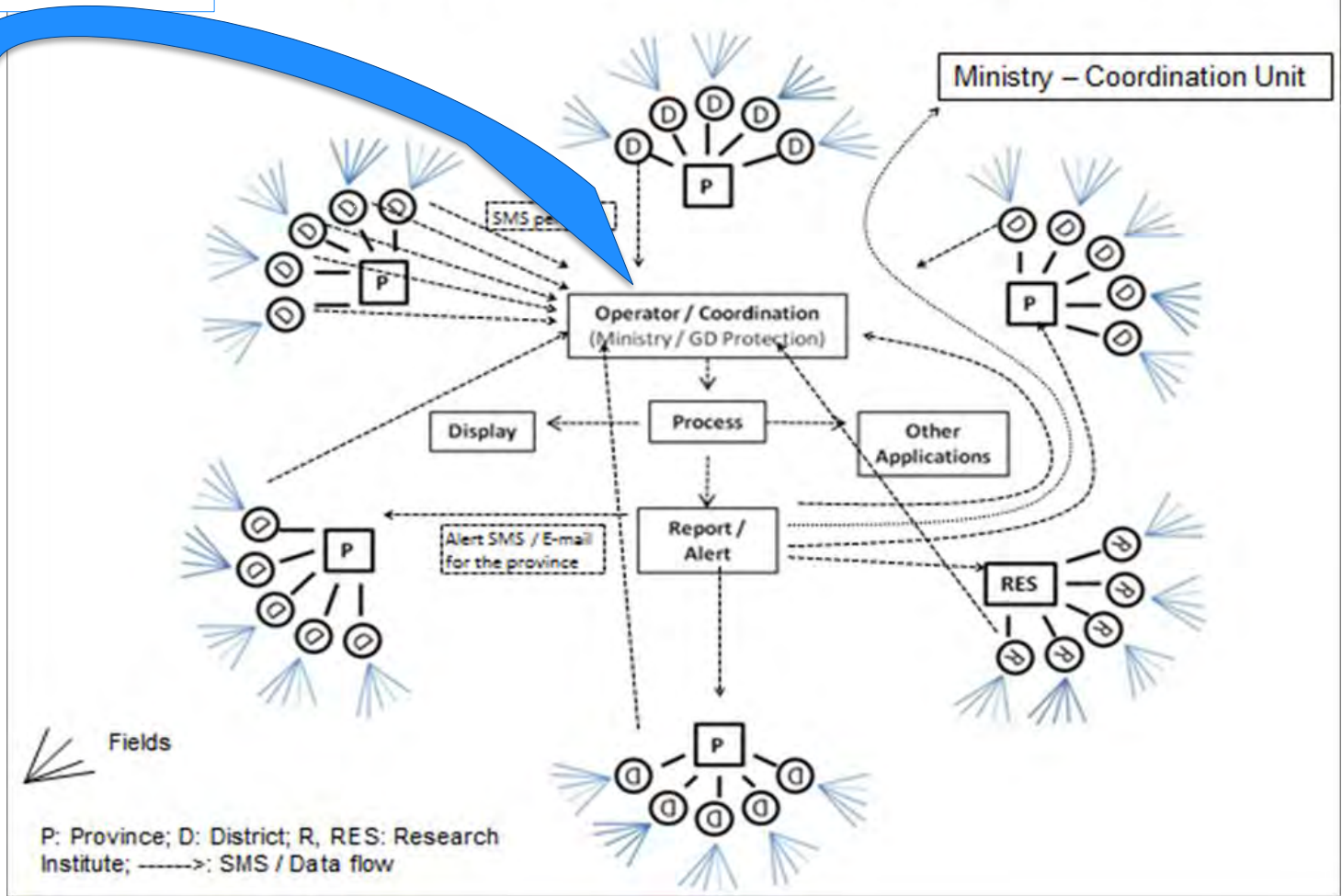


# WRDGP: Mobile surveillance tool

SMS: WHT YR20 SR5



(SMS Network for Wheat Rust Management in Turkey)





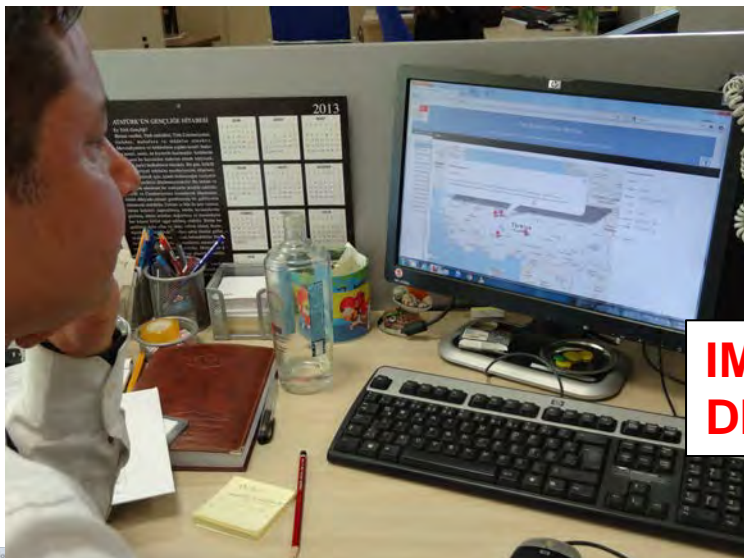
# Procedures

- The SMSs sent from each district twice a week the following information:
- **Presence** and species of rusts in fields,
- **Percentage** of infected plants,
- Any other relevant **information** such as field size or name of the cultivar.

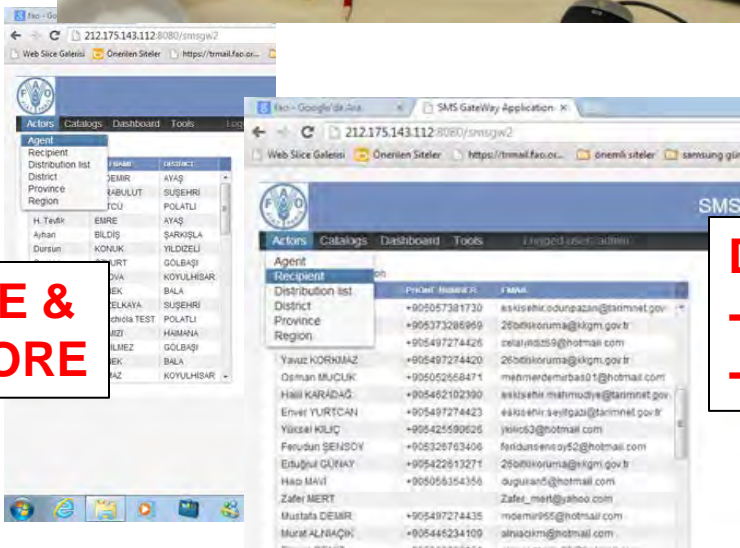
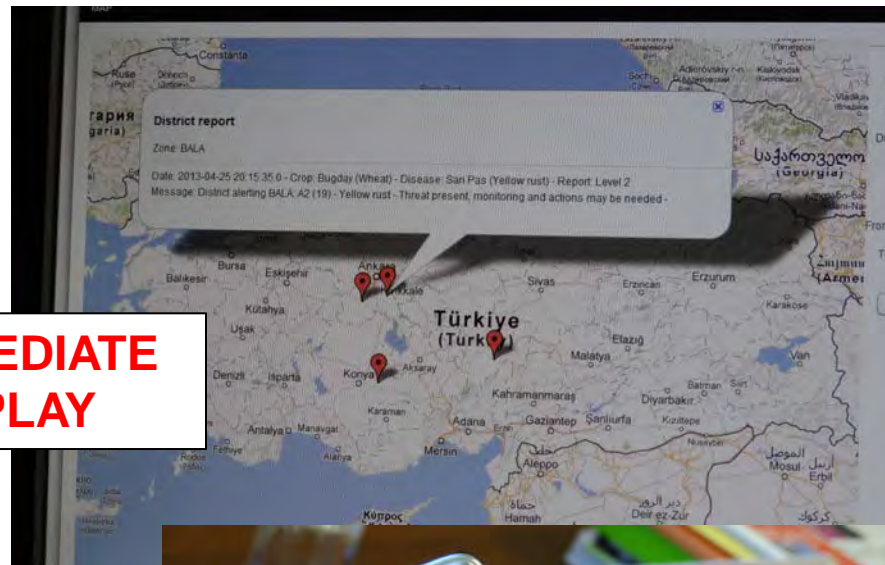




# Results



**IMMEDIATE DISPLAY**



**FILE & STORE**

**DAILY WARNING:**  
- SMS  
- MAIL







# Findings

- The SMS reports facilitated **monitoring** of disease development through the season.
- Yellow rust initiated in **11%** of the fields,
- More frequent in Susehri, Tomarza, Pinarbasi, Alpu and Cihanbeyli.
- Infections remained relatively **low** through the season,
- Only **3 fields** reached the 5-14% category and one 40-100%.



# Yellow rust progress







# Search tool

Logo of the Ministry of Agriculture and Forestry of Turkey and the FAO logo.

## PAS SÜREY / RUST WATCH

SMS Tabanlı Buğday Pas Sürvey Sistemi (BPSS) - SMS Based Wheat Rust Monitoring System (WRMS)

Actors Catalogs Dashboard Tools Logout Logged user: user

IFAD Enabling poor rural people to overcome poverty

FAO

Search parameters

MAP

From date: 01.01.2013  
To date: 17.08.2013  
Province:   
District:   
Agent:   
Type:   
Crop:   
Disease:   
Free text:   
SMS\_ID:

Search

Field report

Zone: YILDIZELİ

Date: 2013-05-31 09:34:02.0 - Crop: Bugday (Wheat) - Disease: Sari Pas (Yellow rust) - Infection %: 28  
Agent: karaca - GPS Coords: 36.60082004°N 39.87237948°E -

Search parameters

District:   
Report: Level 1  
Disease: Sari Pas (Yellow rust)  
Crop:   
Type: Field  
From date: 01.01.2013  
To date: 26.07.2013

Search



# Functions of the system

- Utilization of **extension** offices for surveillance,
- **Rapid** access to field data,
- **Exchange** of information among extension, offices, operation unit and relevant authorities,
- Early **warning** and decision-making tool to facilitate timely interventions,
- Assist **research** institutions to design their scientific surveys in the most appropriate locations and directions, monitoring and management systems.



# Future prospects

- Information sharing and **collaboration** between research and extension institutions,
- **Adaptation** to local needs possible,
- Can include **other** pests and diseases,
- Can be considered as a component of wider crop **monitoring** systems,
- Effective tool for rapid **response**.