



**GAFAG**

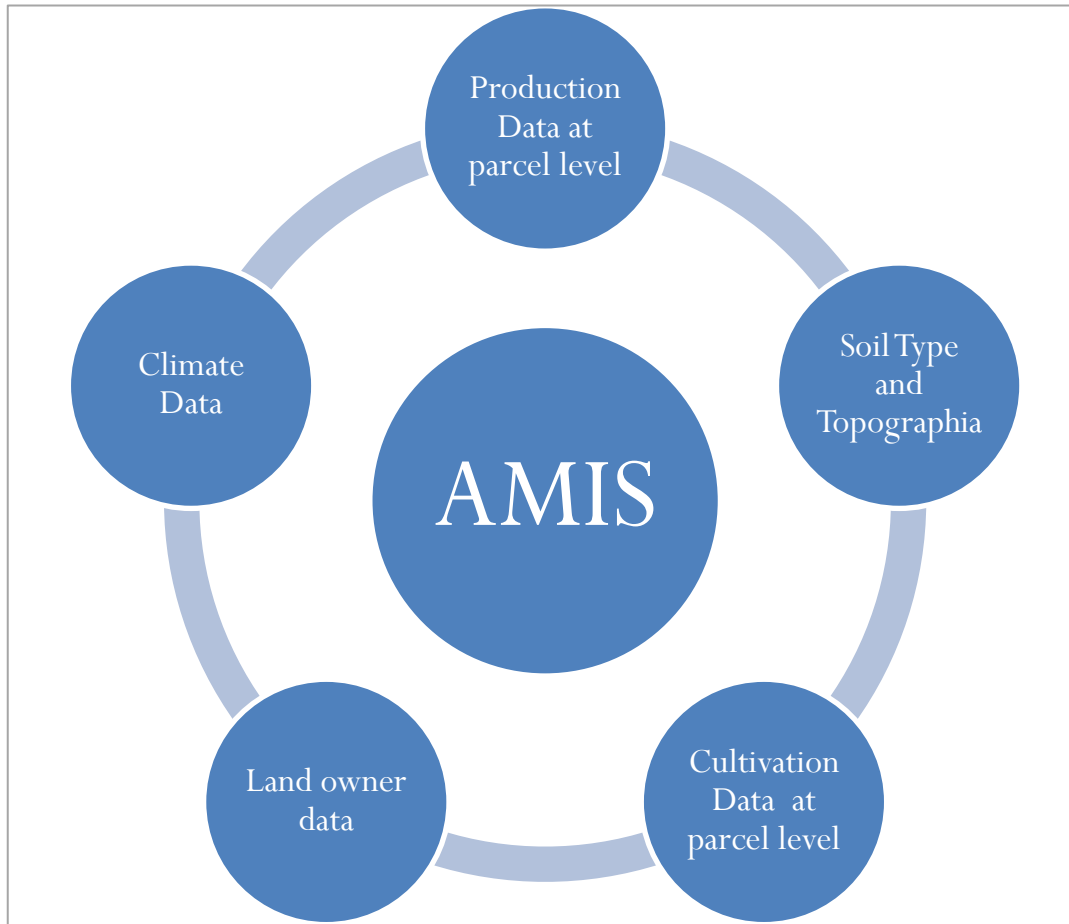
# **Agricultural Information Systems**

**Why it is important**

Hakan Demirbüken and Rodrigo Salcedo

October 2016

## Agriculture Information System Data



## Use of Agricultural Information Management Systems (AMIS)

- Fast and Reliable data on cultivation and production
- Parcel level crop type and production
- On-time monitoring of weather conditions and possible risk factor
- Soil, elevation and other topographic specifications at parcel level
- Type of seeds and fertilizers used and planning
- Market proximity analysis
- Insurance planning



# Needed Type of Data

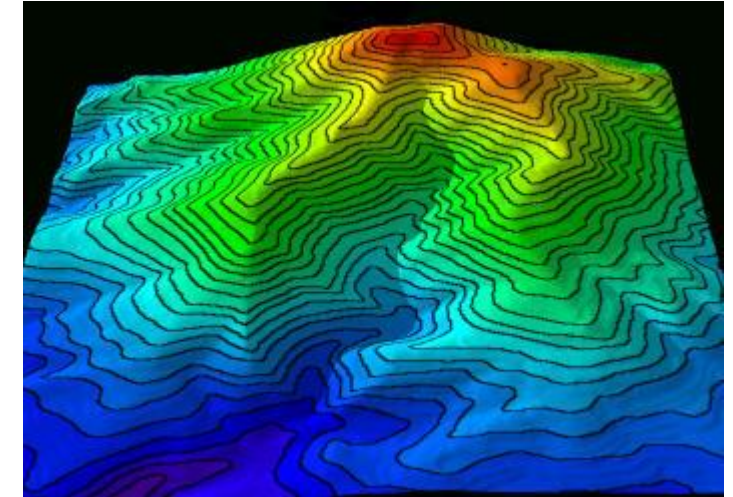
Cadastral Data



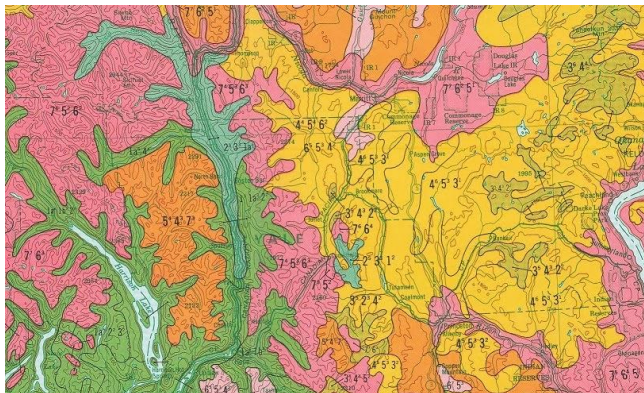
Meteorology Data



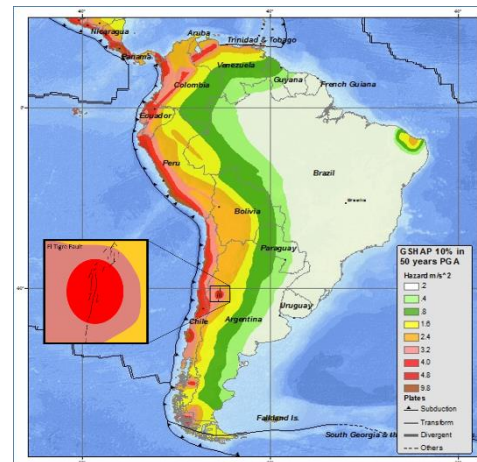
Topography Data



Soil Data

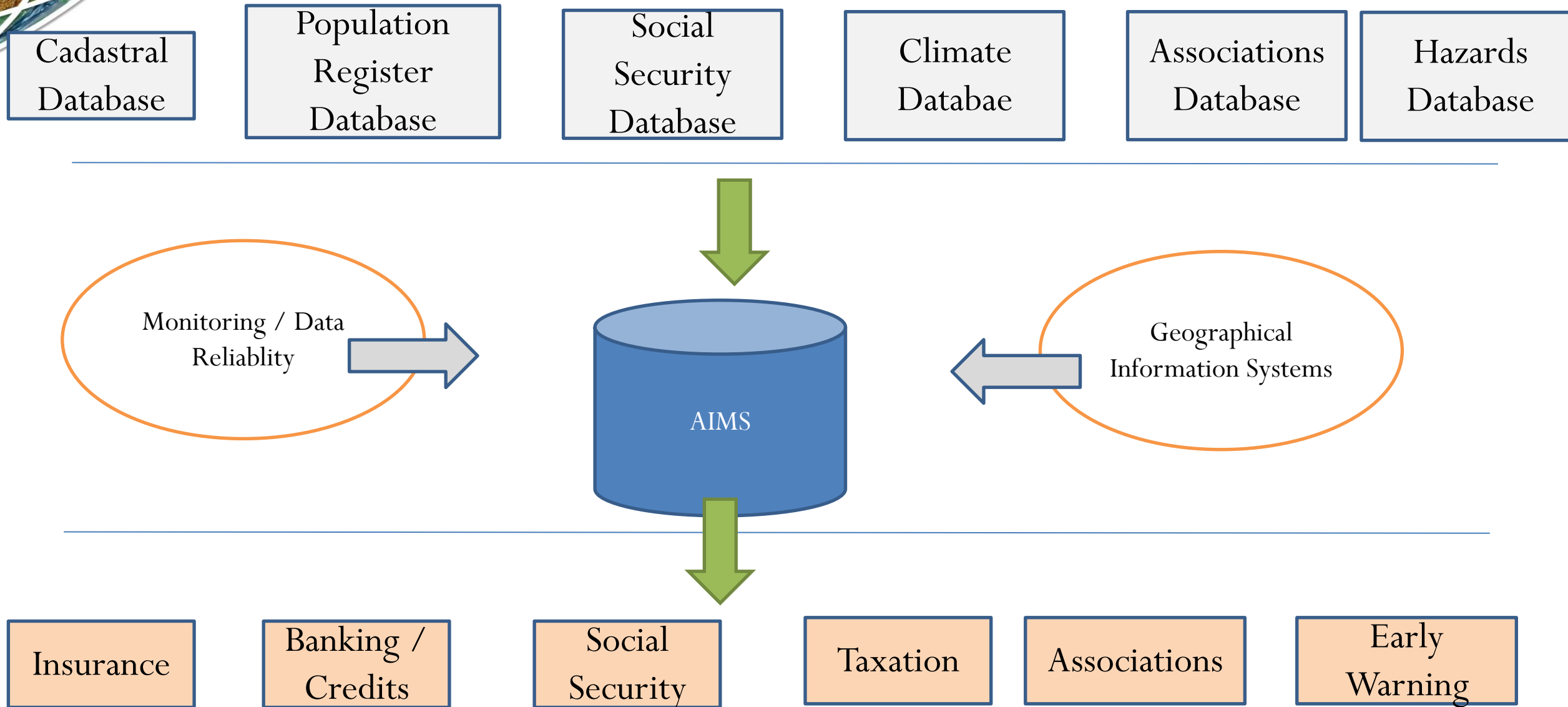


Natural Hazard Data



### Parcel Based data is needed to be registered :

- Land Owner Information
- Family Information
- Status of the land
- Area
- Crop type
- Type of fertilizers used
- Insurance
- Livestocks
- Agricultural Equipments owned
- Soil type
- Yield
- Irrigation
- Marketting information
- Agricultural Credits / grants used
- Membership information for agricultural and irrigation associations



- Strong Cooperation and data Exchange Mechanism Between Relevant Organizations
- Availability of Reliable Data
- Regular update of data
- Strong Quality Control Mechanism
- Monitoring and evaluation Mechanism
- Strong Political Strong
- Strong Information System Capacity
- Geo-Reference Data Collection Systems
- Sustainable Human Resources
- Long term Planning



- Increases the productivity and income for farmers
- Increases revenue for Government
- Protects farmers with the help of well established insurance system
- Enables Government to desing better agricultural policies
- Provides early warning about production and quality
- Enables better and efficient use of water and fertilizers
- Enables users to access data through a web-portal
- Enables Goverment to establish E-system for farmers/users

- Having an established AIMS is also increase the efficiency and productivity of animal production
- Better and efficient services for Animal caring
- Early warning about possible problems on animal production
- Better policy development
- On-time monitoring
- Better monitoring of impacts of climate change



- Increase the agricultural development and so does the import
- Better planning of agricultural production at region and watershed level
- No need for agricultural census
- No need for monthly agricultural data collection
- Easy and on-time access to agricultural data and values

Establishment of an efficient AIMS system takes time and requires high budget.

However, return of investment is very high and rapid as well. Return for money for investment on establishment of AIMS is rapid and visible.

## Case : Turkey

[www.tbs.tarsey.gov.tr](http://www.tbs.tarsey.gov.tr)



Information is available at parcel level.

Weather and yield estimations can be monitored on-time

Data required for Insurance systems

On-line application for agricultural support possibilities and credits

On-line data for ;

- Hazard warning
- Monitoring of yield
- Production estimation
- Weather monitoring (rain, frost, wind, etc)
- Market information
- On-line order form for agricultural needs



Development of Agricultural Information Systems started with Farmers Registatin Sysem.

Later on Turkey moved to direction of development of E-Government. For that purpose databases developed by different Government organizations were linked (Cadatra, population registration, weather, hazards and etc).

A geographic Information System Center established for that purpose as well