

AGRICULTURAL INFORMATION SYSTEM IN TURKEY

DECEMBER 2014



CONTEXT

1. Agricultural Information System (AIS) project
2. Project Implementation
3. Project Scale
4. Conclusion

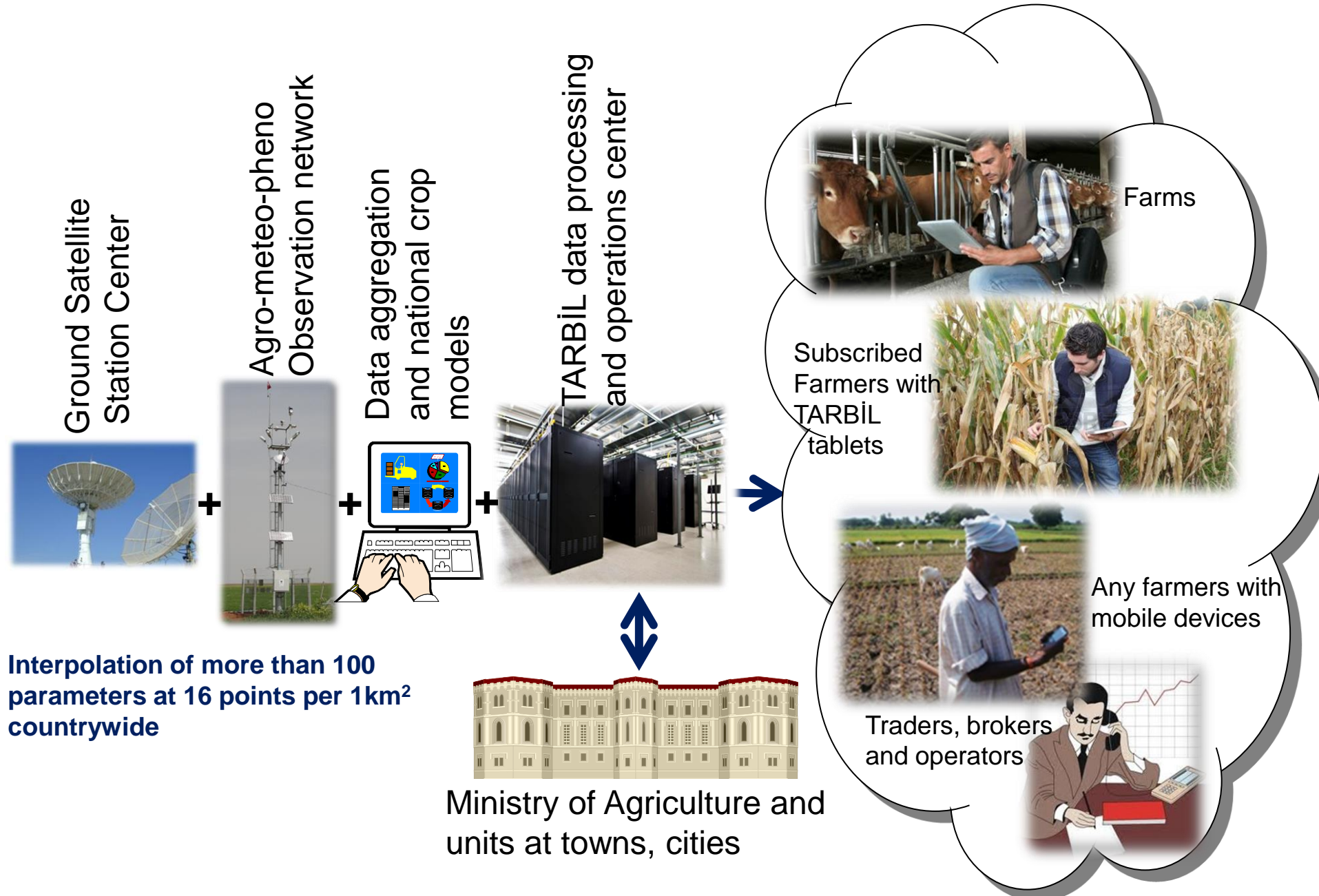
A real time agro-Information service covers; AIS Project

The Agricultural Information System (AIS)
in Turkey is an integrated system where;

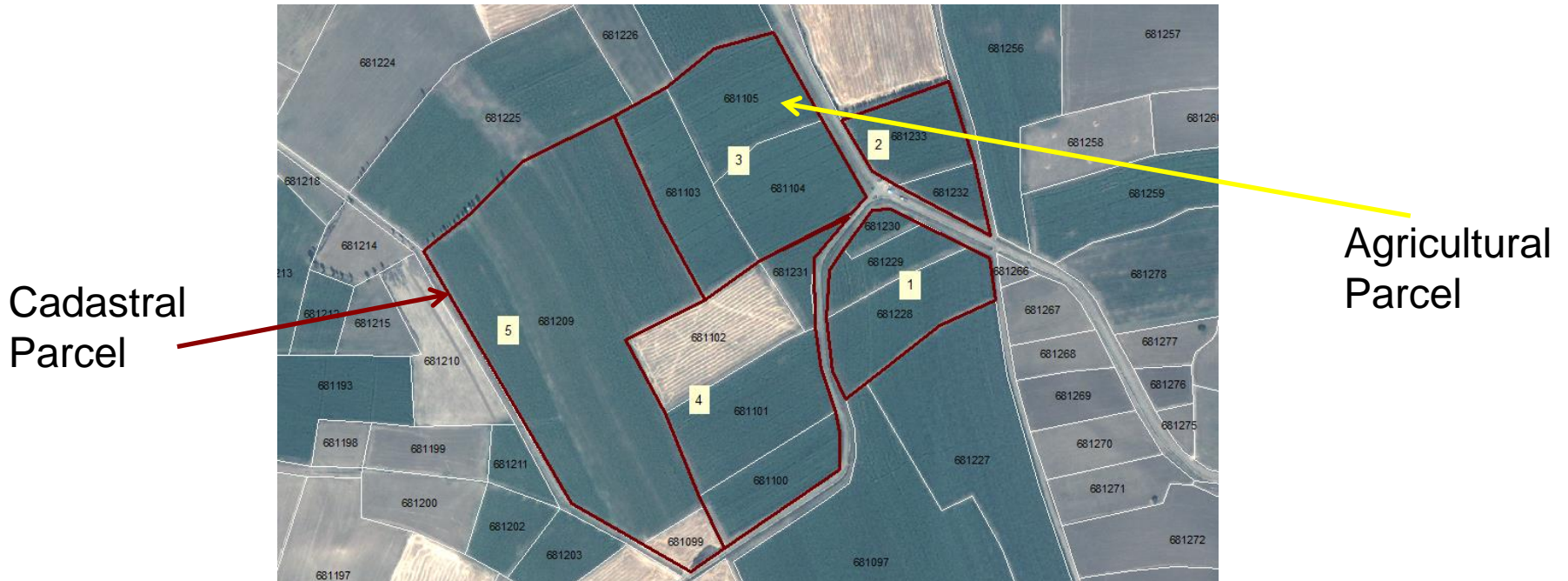
- ❖ all areas of the Turkish agriculture are recorded in,
- ❖ the collected data is preserved,
- ❖ analyses on various subjects are prepared,
- ❖ eventually the results obtained at the end are carefully evaluated and processed.

- ❖ The integrated Agricultural Information System is to deliver a permanent and solid solution in producing agriculture statistics.
- ❖ AIS is fully based on Geographical Information Systems (GIS) standards, an instant access to any agricultural statistics is provided, furthermore the more accurate and precise data contributes to the national agricultural policies and strategies to remain at up-to-date level.
- ❖ The integrated system also promotes picking up the most appropriate product and objective agricultural subsidies in the strategically right agricultural parcels.

Fusion of periodic and non-periodic spatio-temporal data from land and space



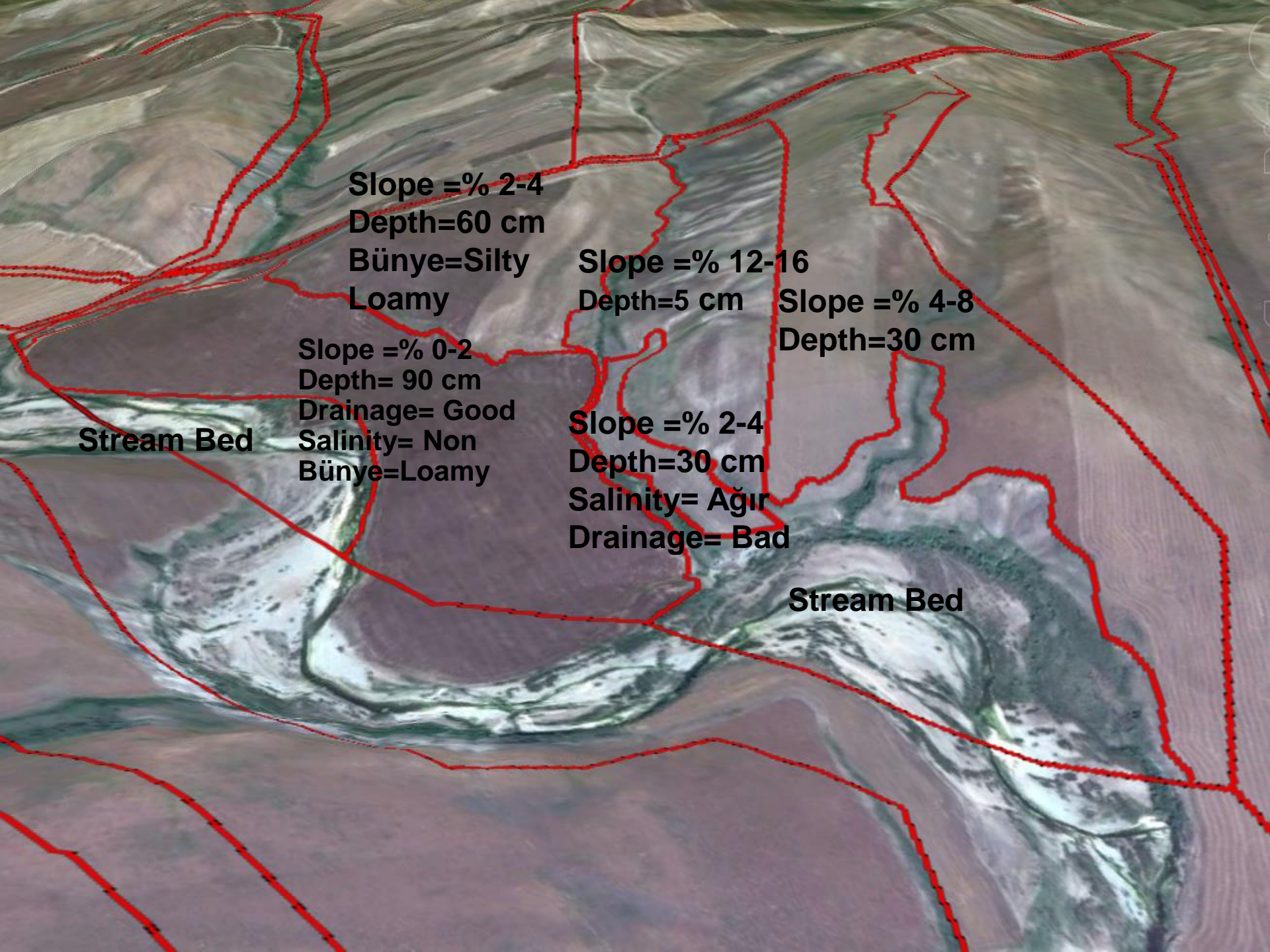
IMPLEMENTATION



In establishing Agricultural Parcel Database, cadastre parcels supplied in shp format via the KVK Systems of General Directorate of Land Registry and Cadastre (TKGM) as well as photos having 2.5 m. resolution of SPOT 5 satellite supplied within the scope of Protocol have been used as major-data.







Slope =% 2-4
Depth=60 cm
Bünye=Silty
Loamy

Slope =% 12-16
Depth=5 cm

Slope =% 4-8
Depth=30 cm

Slope =% 0-2
Depth= 90 cm
Drainage= Good
Salinity= Non
Bünye=Loamy

Stream Bed

Slope =% 2-4
Depth=30 cm
Salinity= Ağır
Drainage= Bad

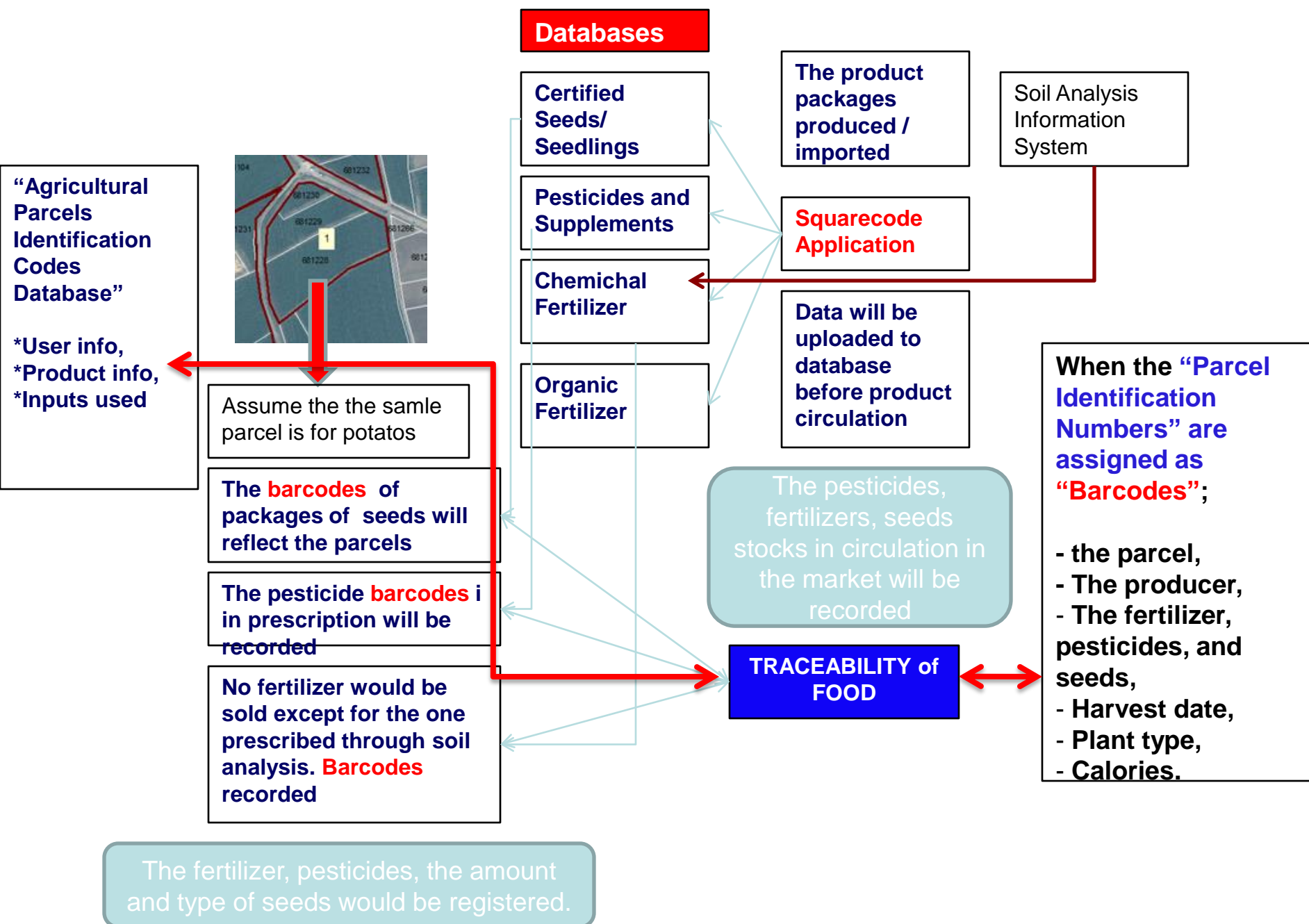
Stream Bed

IMPLEMENTATION

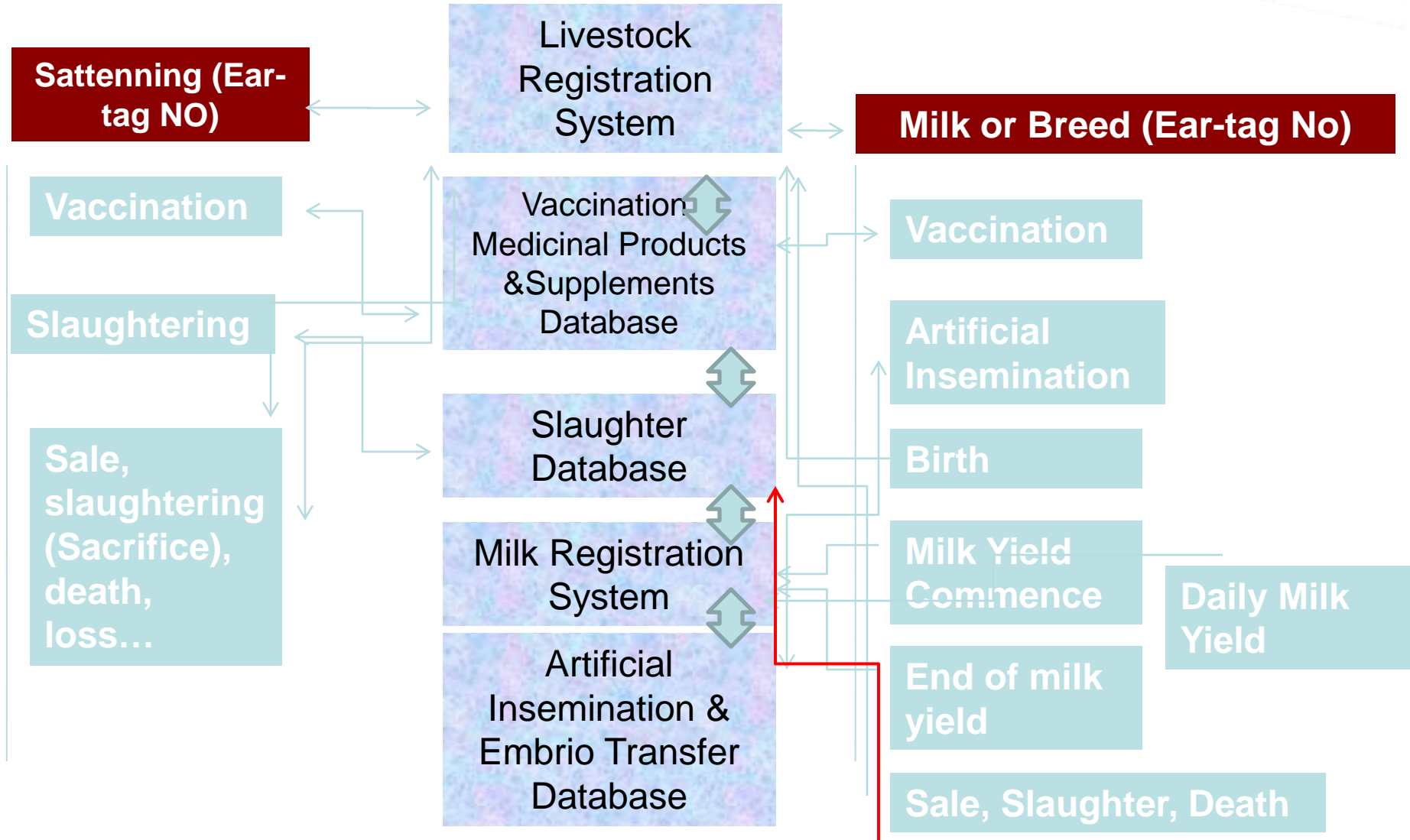
- ❖ By using major and supplementary data, usage belonging to digitized agricultural parcels are determined as; arid lands for agriculture, vineyard/orchard, olive orchard, stall, greenhouse, pool, house, other, rough soil, fodder.
- ❖ During digitization, occupation is also marked onto parcels, except for the areas smaller than 50 m².
- ❖ Digitized agricultural parcels are used as a base within the Farmer Registry System and Agricultural Production and Registry System.

IMPLEMENTATION

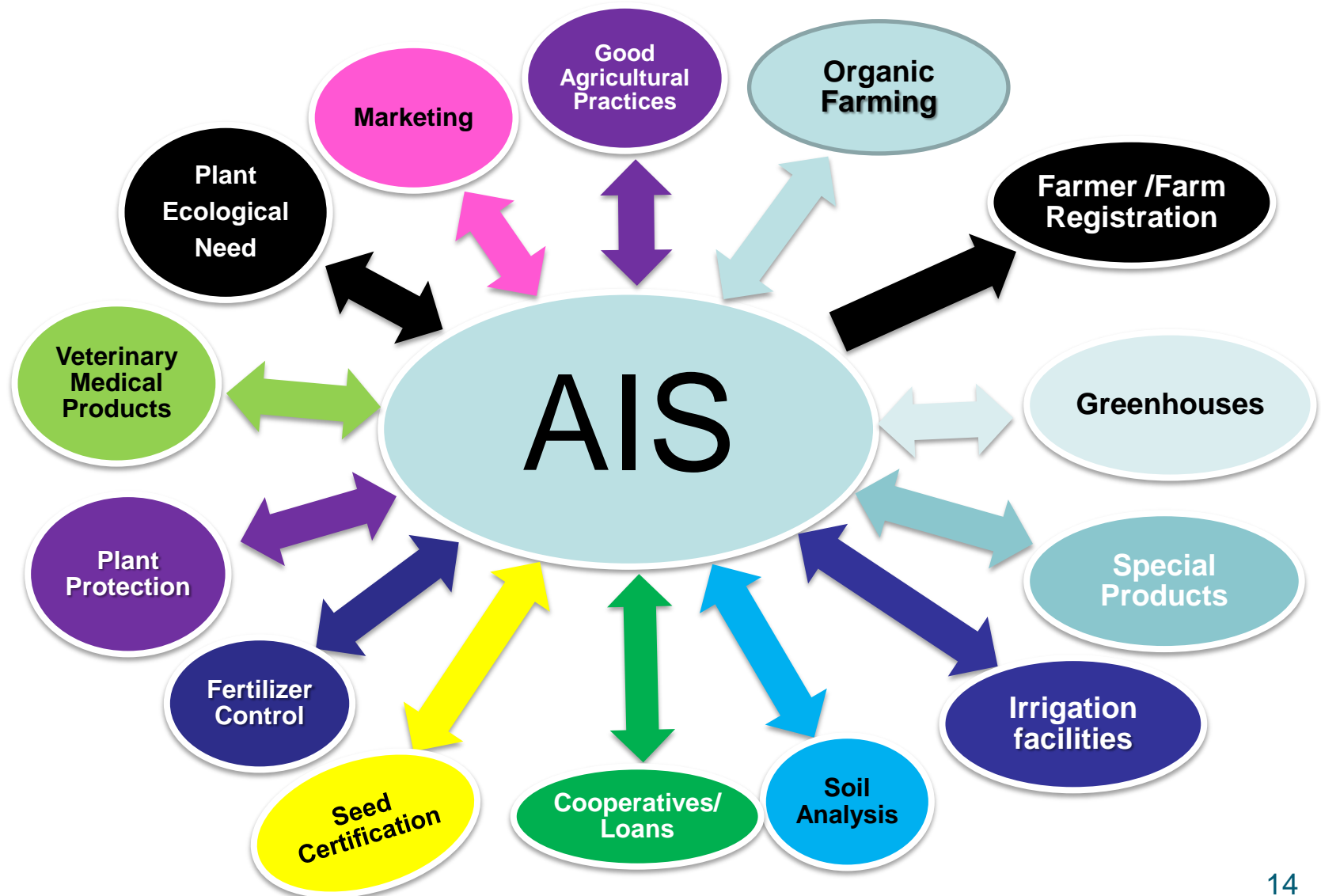
- ❖ Agricultural Production and Registry System (TÜKAS) is developed, as for the digitalized agricultural parcels they are used within the scope of TÜKAS.
- ❖ Producing a complete agricultural statistics at country-level has led to conduct agricultural census through developed mobile-software.
- ❖ Within the scope of Agricultural Data System, Systems that are used in the Ministry have been renovated and their integration has been completed.



LIVESTOCK INFORMATION SYSTEM



IMPLEMENTATION



IMPLEMENTATION

Framework of Method 1

Currently there are 400 Meteorological and Agricultural Observation Centers, in 2015 it will be increased to 1200.

The observation centers are used for;

1. Atmosphere: Measuring climate-related parameters such as temperature, rain, sunlight access, wind-way and wind-force
2. Soil: Soil temperature, soil moisture
3. Visual Record: Plant height, design, spectral specifications, phenological phase detection .

OBSERVATION STATION



IMAGE TAKEN BY STATION



IMPLEMENTATION

Framework of Method 2

To conduct agricultural census through special tablets comprised of mobile applications developed for both farmers and the Ministry staff, within the scope of Agricultural Information System and to transfer real time data to the Command Control Center to be established within the center of the Ministry.

With and by the tablets,

- ❖ 10.000 Ministry Personnel, who are assigned as agricultural consultants are able to find agricultural parcel on the land they will work at,
- ❖ consultancy service, fertilizer and chemical receipts are made available for farmers,
- ❖ farmers have the opportunity to contact the Ministry Personnel instantly in case of need for support and finally.
- ❖ accurate registry and census of animals, agricultural tools and equipment are made available.

IMPLEMENTATION

Framework of Method 2

Through Remote & Control Center, which is at establishment stage, Support on-site, Data-Monitoring & Management, Quality Determination of Accessed Data, Process Implementation Management of TARGETL Personnel as well as coordination of on-site personel and the Ministry Units will be provided.



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Tarım Bilgi Sistemi

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Kooperatif Takip Sistemi

Teşkilatlanma Kredi Bilgisi	Teşkilatlanma Toplantı Listesi
Teşkilatlanma Ortak Bilgisi	Teşkilatlanma Kasa Bilgisi
Teşkilatlanma Listesi	Teşkilat Projeleri
Teşkilatlanma Proje Bilgisi	

Stok Takip Sistemi

Alım Bildirimi	Üretim Bildirimi
İthalat Bildirimi	Ürün Bildirimi
İhracat Bildirimi	Satış Bildirimi

TIKAS

Gerçek Kişi Kayıt İşlemleri	Tüzel Kişi Kayıt İşlemleri
Arazi Sorgulama İşlemleri	Kişi Tapu Kadastro Bilgileri
Koy Tapu Kadastro Sorgulama	

Toprak Analiz

Laboratuvarları
Laboratuvar Denetimleri
Analiz Kayıt

Site içerisinde yer alan görsel ve yazılı materyal T.C. Gıda Tarım ve Hayvancılık Bakanlığı'na aittir. 2013 © Her hakkı saklıdır.

Başkanlığı

AIS SCALE

- ❖ 1200 robo-stations
- ❖ 16.000+ mobile field samplings/seasons
- ❖ 250mx250m grid resolution
- ❖ 10minutes sampling time for agro-meteo data
- ❖ 30 minutes sampling time for agro-pheno data
- ❖ 120+ computed parameters
- ❖ Official declarations data from 2Million+ farmers
- ❖ 32.5 Million Agriculture parcels
- ❖ 28 joint research projects, 84 development projects
- ❖ Cooperation of 10.000 ministry staff on field for Agricultural Census
- ❖ 12.000m2 new building for operations and research center
- ❖ Software and package software for 35 modules which are using and will be used by the Ministry.

CONCLUSION

By using Agricultural Information System;

- ❖ the actual number of farmers and agricultural parcels will be determined.
- ❖ The existing systems will be developed and integrated with new systems.
- ❖ Determine whether the agricultural plantation, optimize the utilization of natural resources
- ❖ With this system, both farmer and the economy of the country will have gains.
- ❖ With the controlled use of water in agricultural irrigation, unnecessary usage of water resources will be prevented.
- ❖ Production planning and usage of subsidies will be made effectively.
- ❖ Savings by Risk Management.
- ❖ Reliable statistical data for agriculture will be produced with data collection for agricultural census.
- ❖ The productivity and the producer's profit will rise

THANK YOU

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