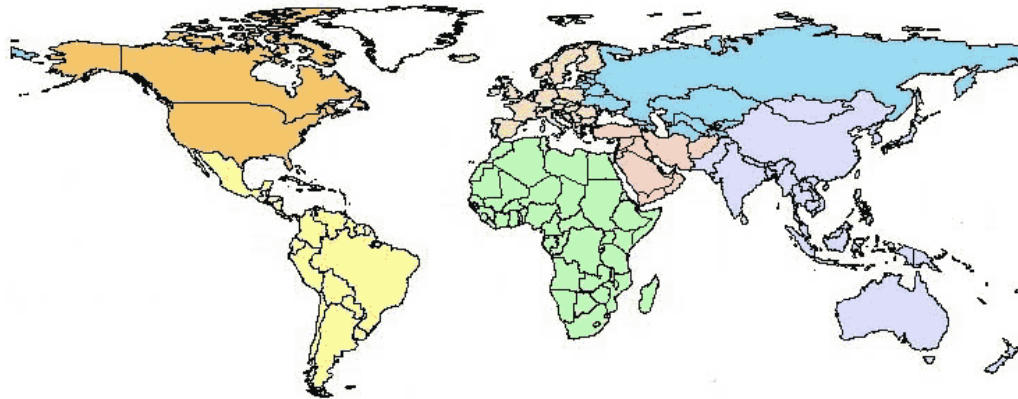


Agro-MAPS

A global spatial database on sub national agricultural land-use statistics



Millennium Ecosystem Assessment

Status of available data - 1

Insufficient agricultural land use information needed to examine national, regional & global issues

TOPICAL ISSUES

- Food security & poverty
- Land degradation
- Climate change
- Policy formulation
- Land use planning
- Investments in sustainable agriculture
- ..



Millennium Ecosystem Assessment

Status of available data - 2

Regional/ global data

- Crops [FAOSTAT](#); [IFPRI](#)
- Forests [FAO \(FRA\)](#)
- Water [AQUASTAT](#), U. Kassel, U. Frankfurt?
- Cultivation intensity NASA
- Eco systems USGS
- Protected areas [UNEP-WCMC](#)
- Land cover/use [FAO\(Africover\)](#); [USGS](#); [IFPRI](#);
[SAGE](#); [LUCC](#); [MA](#); [GLC2000](#);
[Global Mapping](#);

Shortcomings: ± limited coverage / number of classes; non-standard definitions; insufficient information on management aspects; insufficient detail; modelled data

Agricultural land use

How?

Management:
inputs, technologies

How much?

Quantities:
areas, products, ..

When?

Timing of
operations

What?

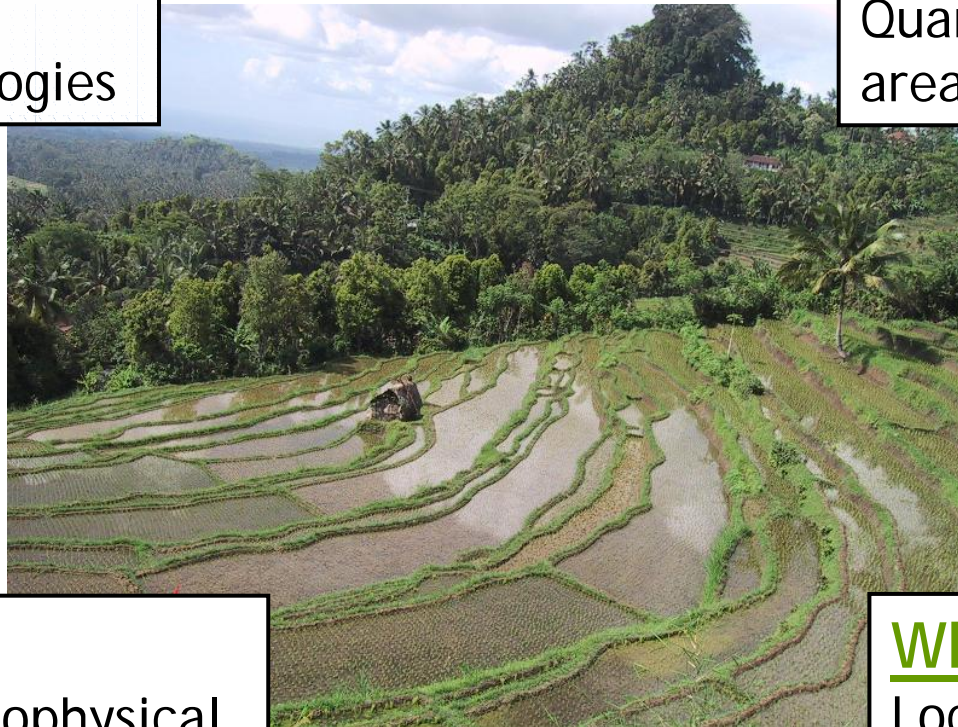
Objectives:
Products,
services

Why?

eg. reasons (biophysical,
socio-economic, ..)

Where?

Location
& spatial extent



Major characteristics of agricultural land use

Versus Land cover... the observed (bio)physical cover on the earth's surface (LCCS, 2000)⁴

Agro-MAPS database contents



Statistics aggregated by sub-national administrative districts.

- crop production
- area harvested
- crop yields

How much?

Quantities:
areas, products, ..

What?

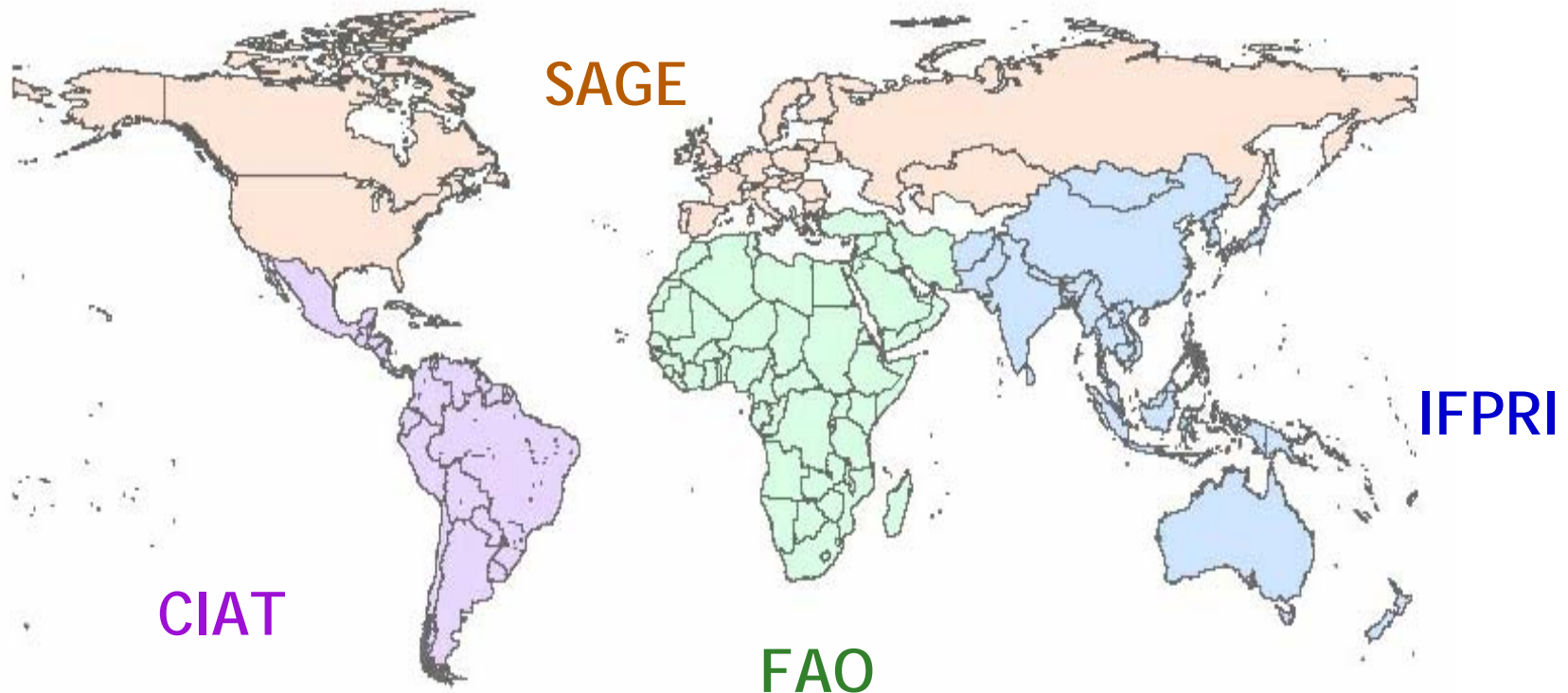
Objectives:
Products,
services

Where?

Location
& spatial extent

Major contents of the Agro-MAPS database

Contributors to *Agro*-MAPS



- Global data base; sub national; geo-referenced;
- Pooled contributions

Compilation - tabular statistics

barley FAO codes area harvested

NAME1	NAME2	CODE	ITEM_CODE	YEAR	ELEMENT_CO	DATA	COMMENTS
Region 1	Ariana	TUN001001	44	1994	031	2100	
Region 1	Ben Arous (Tunis Sud)	TUN001002	44	1994	031	1700	
Region 1	Tunis	TUN001003	44	1994	031	300	
Region 2	Bizerte	TUN002001	44	1994	031	6000	
Region 2	Nabul	TUN002002	44	1994	031	17300	
Region 2	Saghuan	TUN002003	44	1994	031	2800	
Region 1	Ariana	TUN001001	44	1994	051	1900	
Region 1	Ben Arous (Tunis Sud)	TUN001002	44	1994	051	1500	
Region 1	Tunis	TUN001003	44	1994	051	400	
Region 2	Bizerte	TUN002001	44	1994	051	5400	
Region 2	Nabul	TUN002002	44	1994	051	18600	
Region 2	Saghuan	TUN002003	44	1994	051	3400	

Spelling; name changes
redistricting

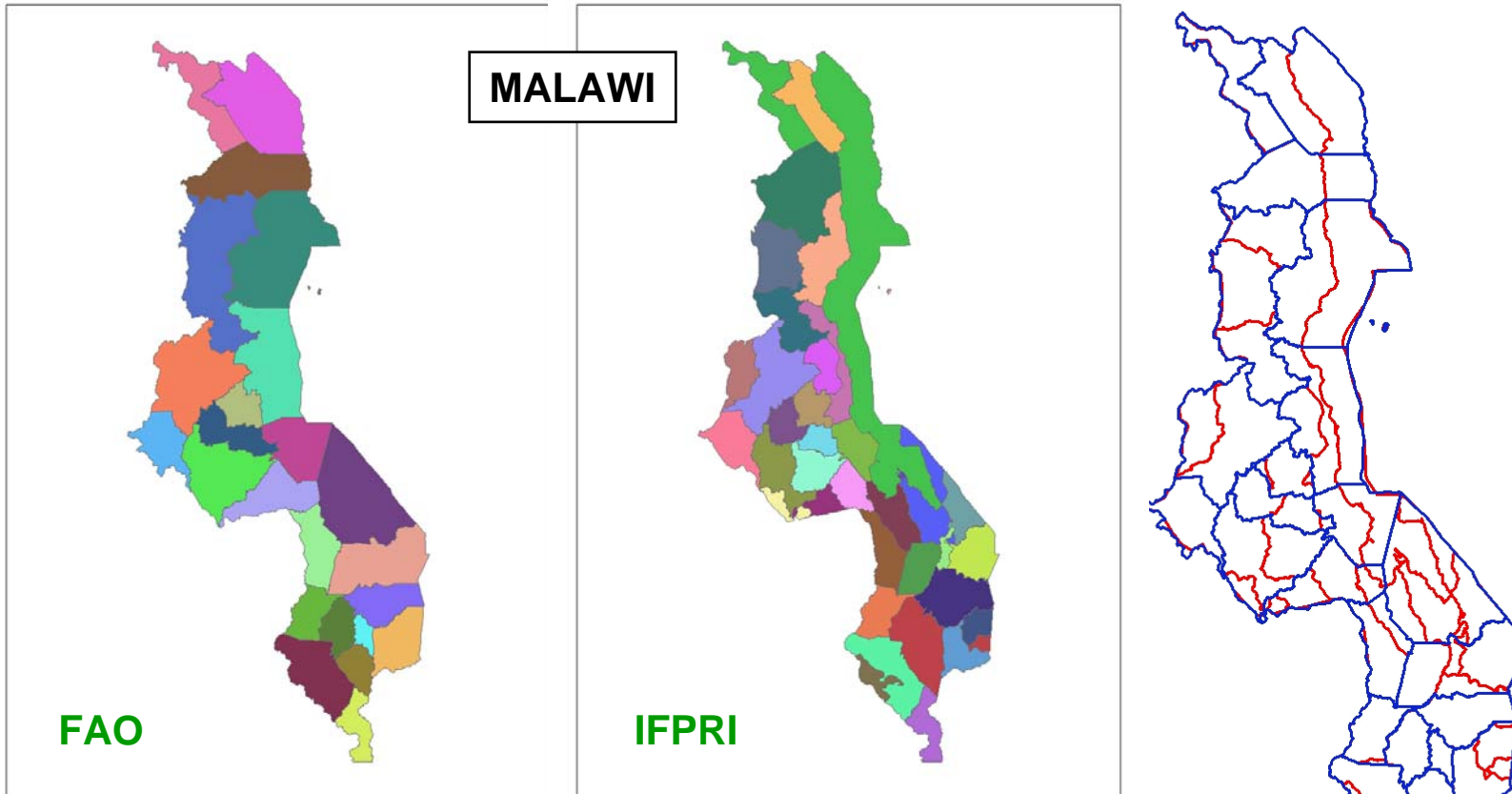
Boundary file codes;
SALB

production

Missing; not available; zero;
validation vs FAOSTAT

- Data from diverse sources; IPR issues
- Harmonization; accuracy!!

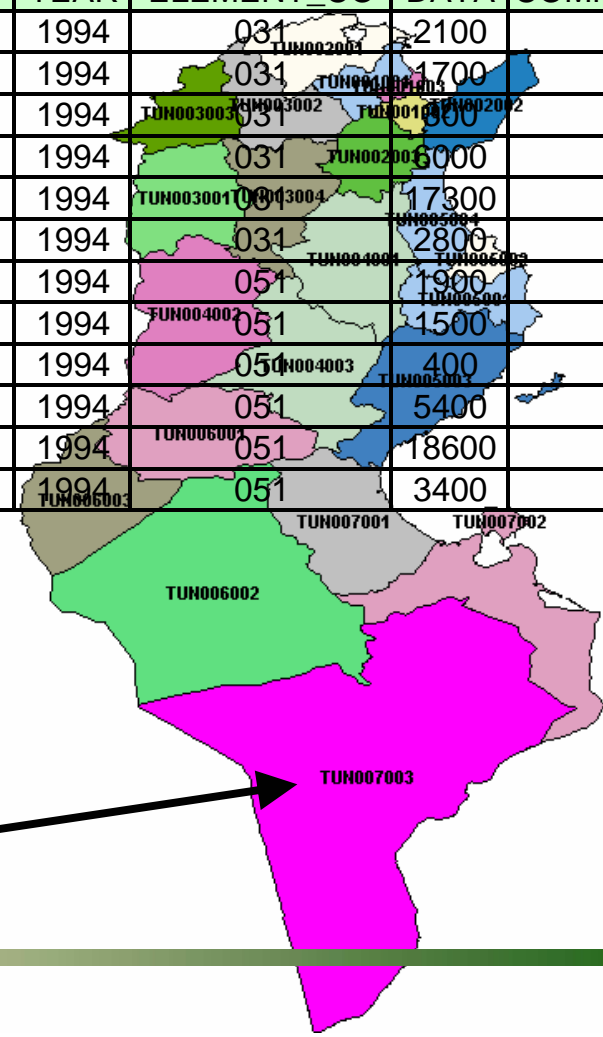
Compilation of boundaries



- Differences in 2nd level boundaries from different secondary sources
- Boundary disputes
- Coding scheme

Matching statistics to boundaries

NAME1	NAME2	CODE	ITEM_CODE	YEAR	ELEMENT_CO	DATA	COMMENTS
Region 1	Ariana	TUN001001	44	1994	031	2100	
Region 1	Ben Arous (Tunis Sud)	TUN001002	44	1994	031	1700	
Region 1	Tunis	TUN001003	44	1994	031	900	
Region 2	Bizerte	TUN002001	44	1994	031	6000	
Region 2	Nabul	TUN002002	44	1994	031	17300	
Region 2	Saghuan	TUN002003	44	1994	031	2800	
Region 1	Ariana	TUN001001	44	1994	051	1900	
Region 1	Ben Arous (Tunis Sud)	TUN001002	44	1994	051	1500	
Region 1	Tunis	TUN001003	44	1994	051	400	
Region 2	Bizerte	TUN002001	44	1994	051	5400	
Region 2	Nabul	TUN002002	44	1994	051	18600	
Region 2	Saghuan	TUN002003	44	1994	051	3400	



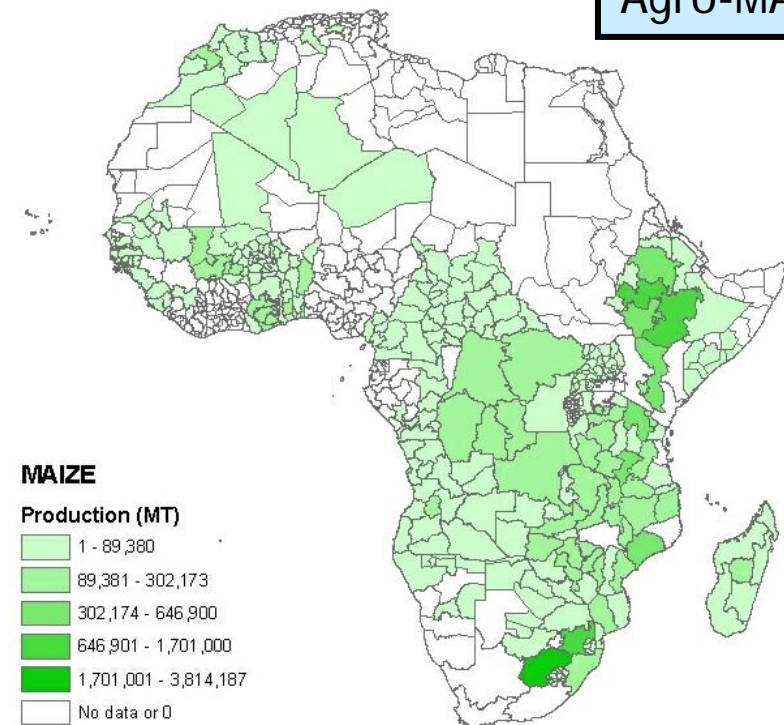
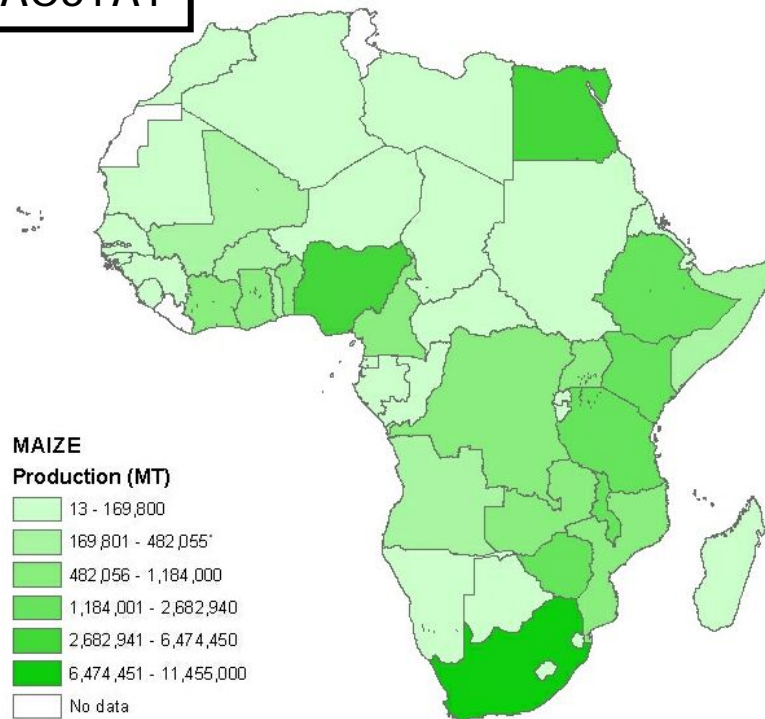
Challenge:
Find the right map!

Subnational vs national statistics

FAOSTAT

Crop distribution - Maize

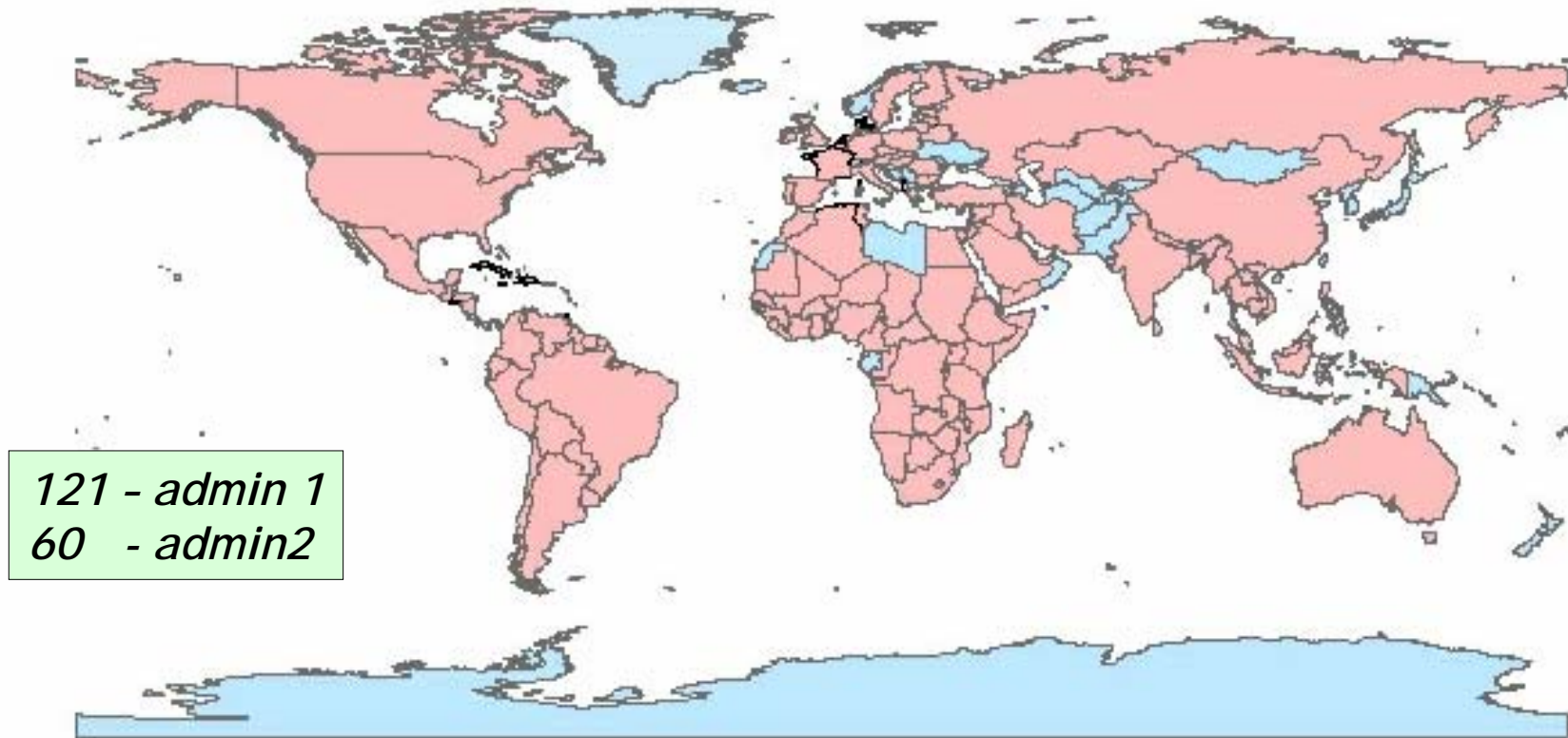
Agro-MAPS



Statistics aggregated
by **57** Countries

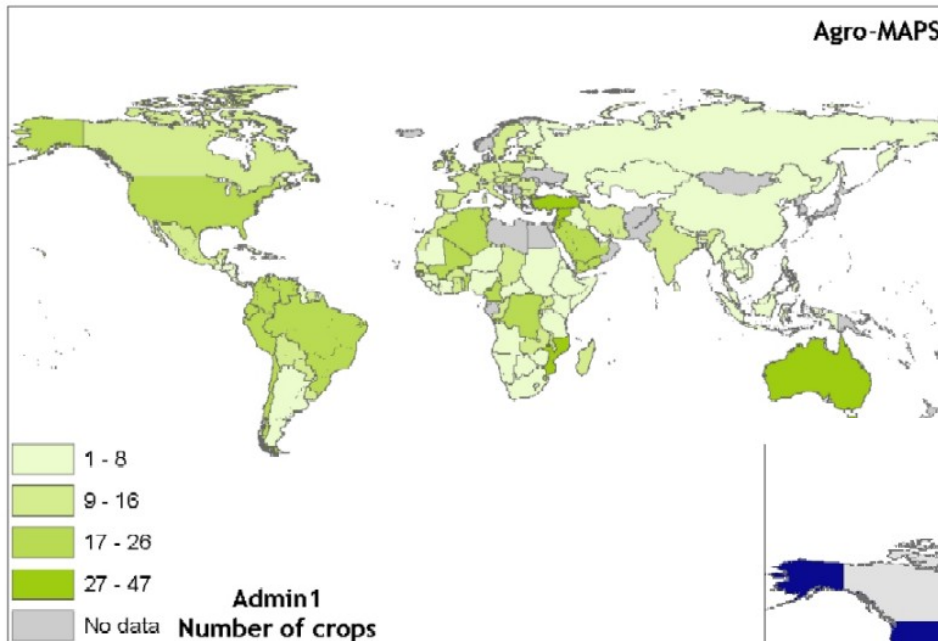
Statistics aggregated by
5690 Administrative units

Status of Agro-MAPS

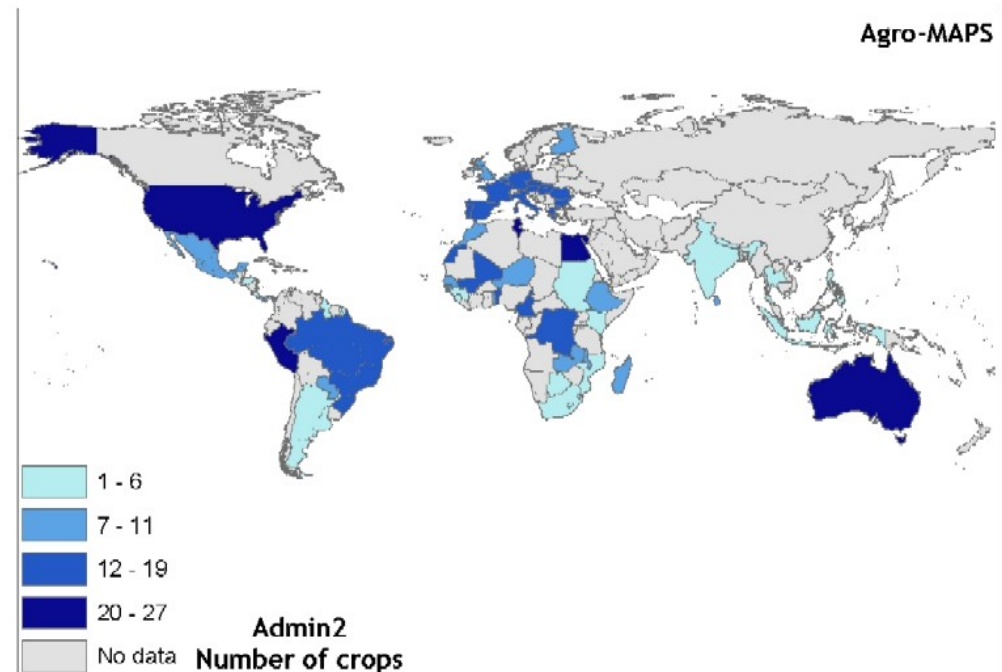


Countries for which data are contained in Agro-MAPS

Status of Agro-MAPS



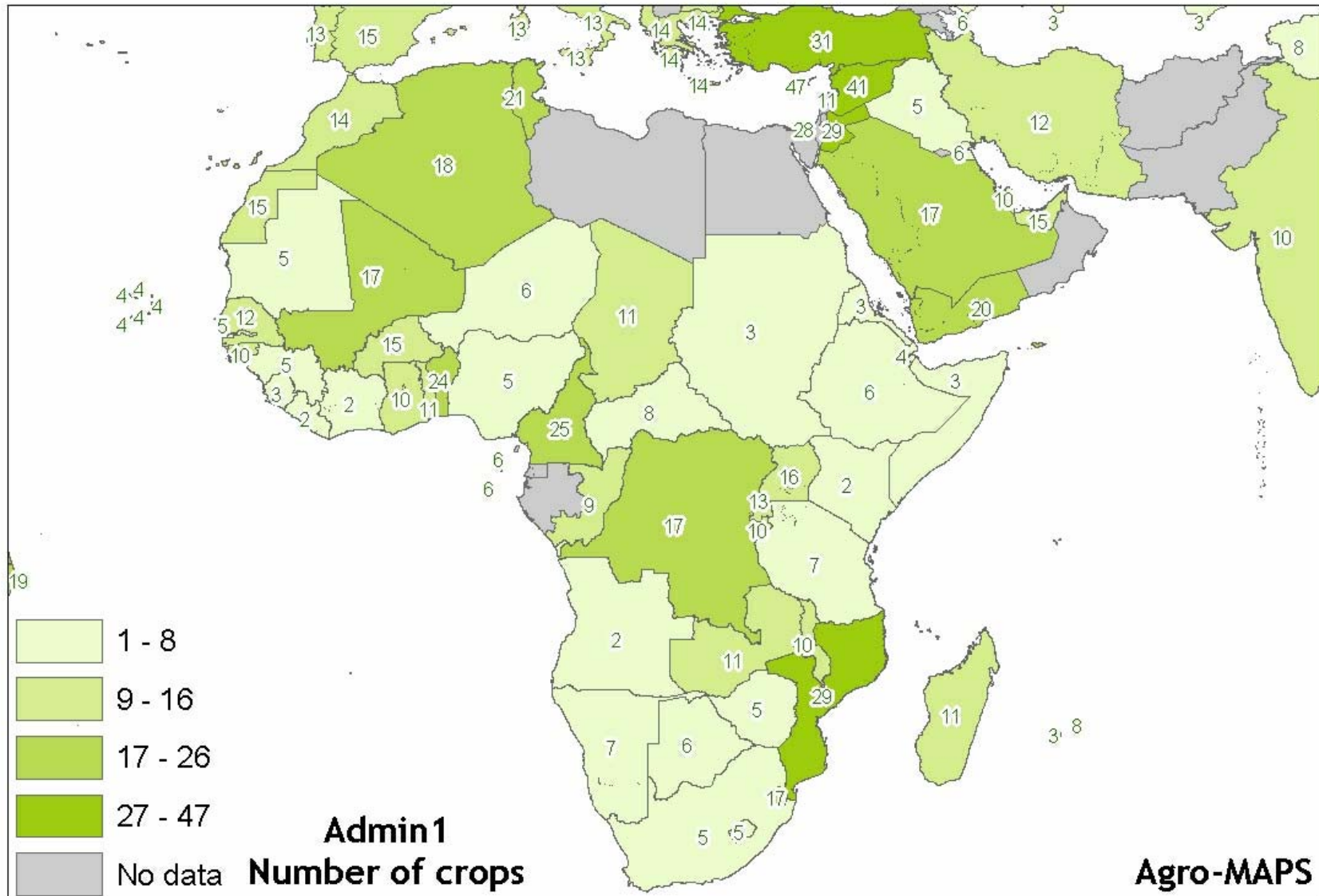
121 - admin 1
60 - admin2



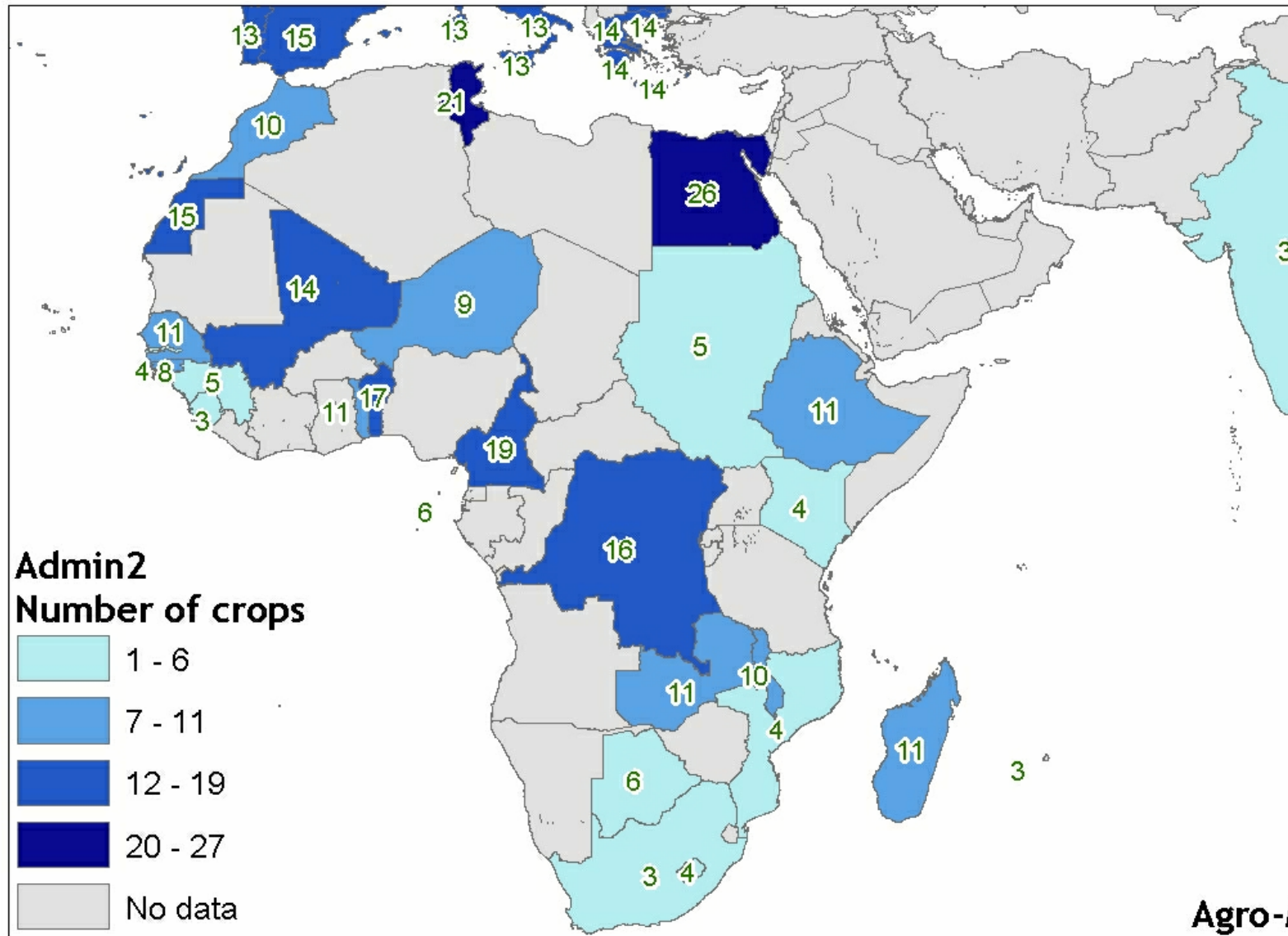
Status of Agro-MAPS



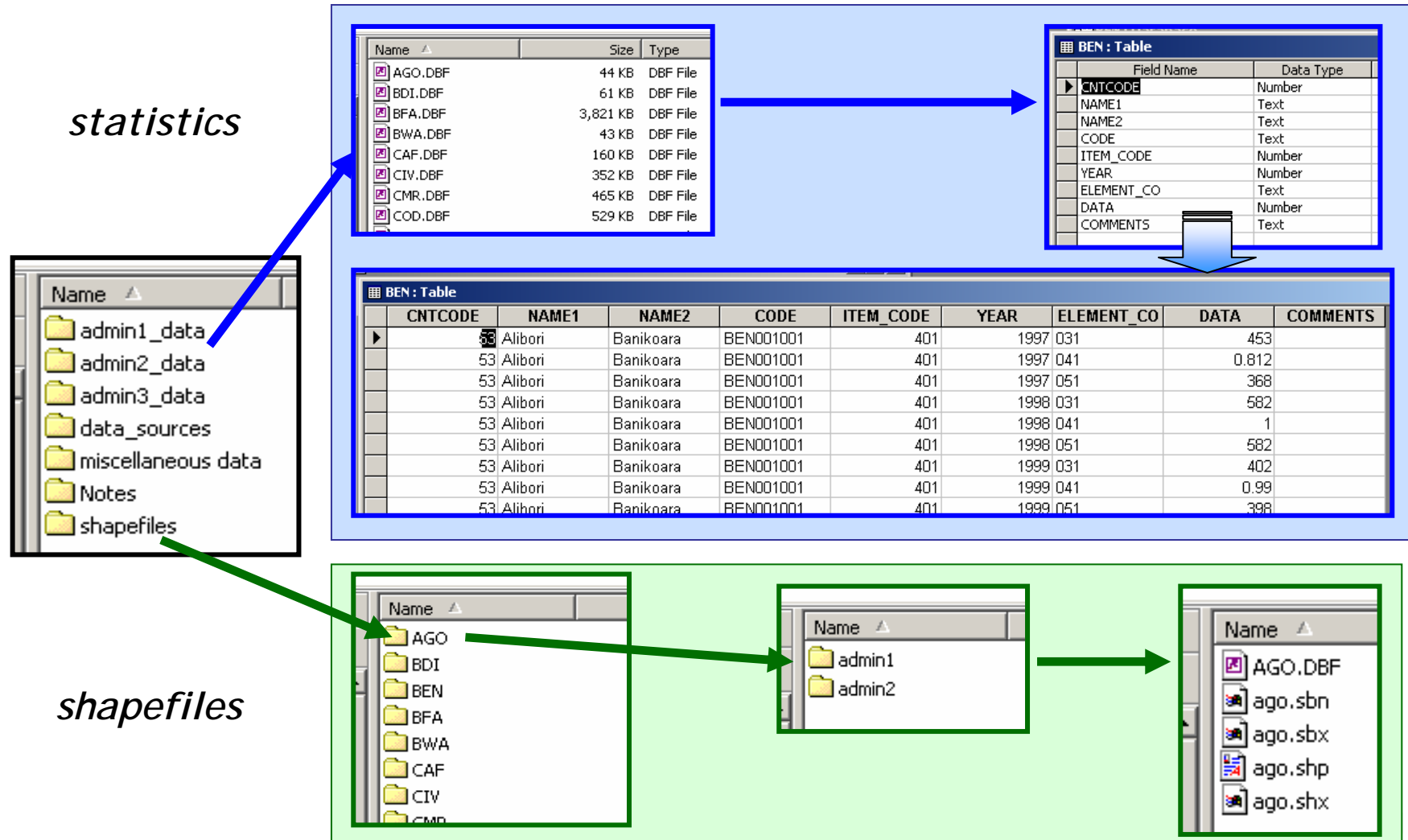
Status of Agro-MAPS



Status of Agro-MAPS

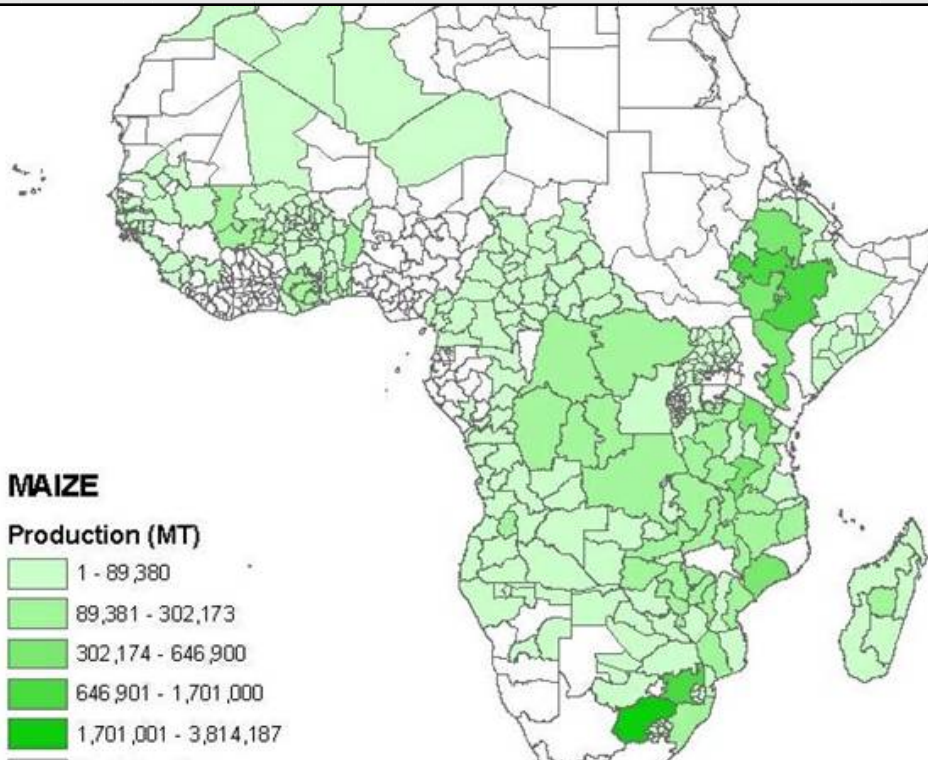


Data organisation



Agro-MAPS Explorer

A tool for browsing the Agro-MAPS database



Search & output parameters
Admin1; maize; production
Most recent data; shapefile

AgroMAPS Explorer V 2.0 - 28/09/03

Geographic Areas

Algeria
Angola
Benin
...

Admin level

1 2

Item - Element

Area Harvested (HA) 031
Yield (MT/HA) 041
Production (MT) 051

Period

most recent or [dropdown]

Output Format

csv xls shp

[Data Sources](#)
[Summary of Contents](#)
[FAOSTAT Items Definitions](#)
[FAOSTAT Elements Definitions](#)
[All crops, all items, all years](#)

On-line query & data access

Agro-MAPS
Introduction Maps Tables Graphs

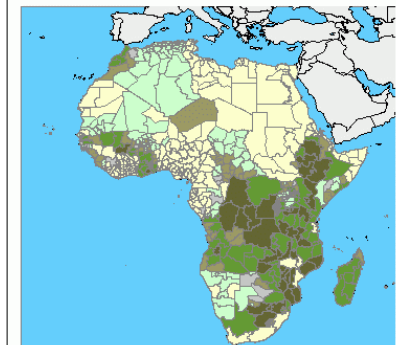
Region: Africa
Layer: Africa Admin 1
ITEM: Maize
Year: Most recent

Country: Africa
Admin. Unit:
ELEMENT: Area Harvested (HA)

Full Map Scroll Map 29%

Maize, Area Harvested (HA), Most recent [Notes](#) [Shp Statistics](#)

Download data



Surrounding Countries
Africa Admin 1

114,610	-	≥
13,840	-	114,610
3,750	-	13,840
3,630	-	3,750
2,270	-	3,630
<	-	2,270
unknown		
unclassified		

to magnify an area click on the map
to see a value click on the map

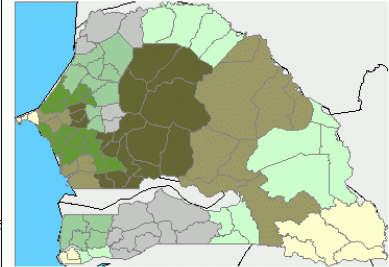
Agro-MAPS
Introduction Maps Tables Graphs

Region: Africa
Layer: Senegal Admin 2
ITEM: Millet
Year: Most recent

Country: Senegal
Admin. Unit:
ELEMENT: Area Harvested (HA)

Full Map Scroll Map 29%

Millet, Area Harvested (HA), Most recent [Notes](#) [Shp Statistics](#)

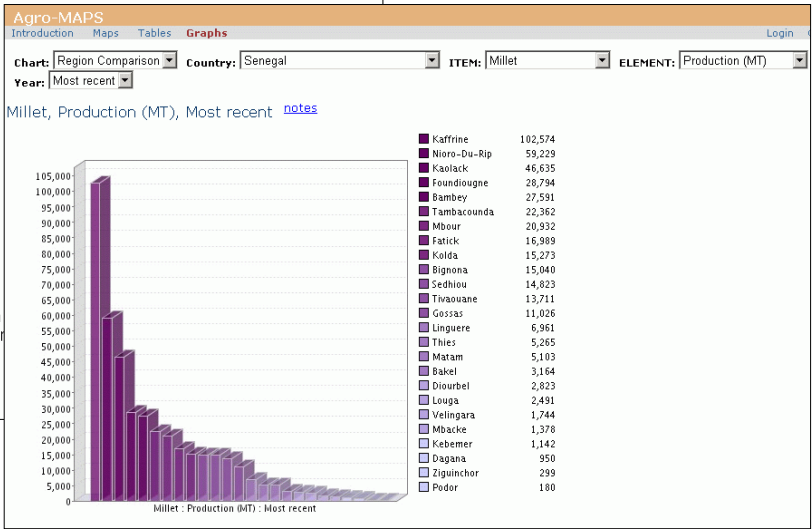


Surrounding Countries
Senegal Admin 2

62,296	-	≥
34,623	-	62,296
21,087	-	34,623
18,131	-	21,087
4,258	-	18,131
<	-	4,258
unknown		
unclassified		

to magnify an area click on the map
to see a value click on the map

[Agro-MAPS site](#)
[Test site](#)
[Users guide](#)



CD-ROM publication:
all regions - mid 2005

Interactive query & display of maps

Applications of Agro-MAPS data

Indicators

- land degradation
- Millennium Development Goals
- State of land and water resources
- Global ecosystem assessment

Land use/ farming systems mapping

- spatial distribution of major food crops
- district level land use/ farming systems characterisation

Food security

- famine early warning

Climate change

- impact of climate change on food production

Land degradation

- areas of risk to land degradation
- soil fertility assessments

Applications of Agro-MAPS data

Indicator analysis - (e.g. monitoring progress - [MDG Goals](#))

Goal 1: Eradicate extreme poverty & hunger

Goal 7: Ensure environmental sustainability

TOPICAL ISSUES

- Food security & poverty →
- Land degradation
- Climate change
- Policy formulation
- Land use planning
- Investments in sustainable agriculture
- ..

SELECTED INDICATORS from Agro-MAPS

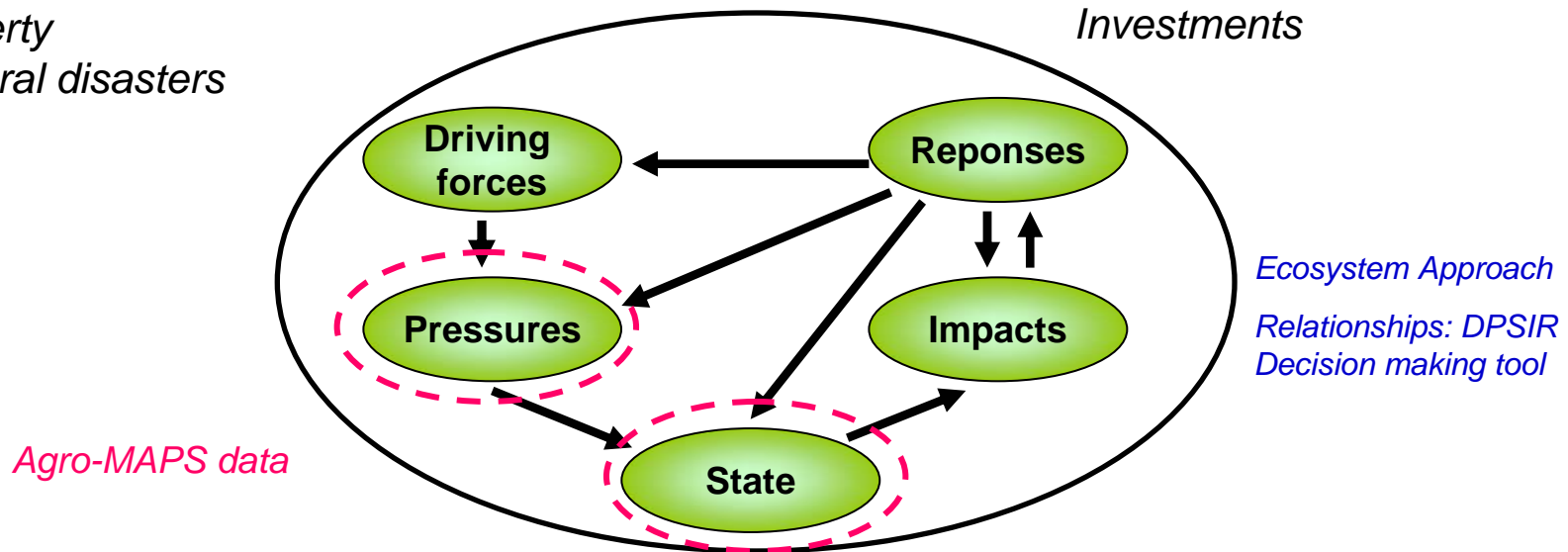
- Potential for expansion of agricultural areas
 - ratio of cultivated to cultivable land
- Potential for intensification
 - Ratio of harvested to cropland areas
 - Ratio of cultivated land to fallow land
 - agricultural land under irrigation
- Sustainability
 - arable and permanent cropland area (the cropland area used for food production) ([UNCSD indicator](#))

Land degradation assessment

Macro-economic policies
 Growth in population, income
 Land use
 Land tenure
 Poverty
 Natural disasters

LADA project

Macro-economic policies
 Land tenure policies
 Conservation/ rehabilitation
 Early warning systems
 Investments



Rising demands

- Agriculture sector: products / inputs
 - over grazing
 - nutrient mining
- Waste disposal

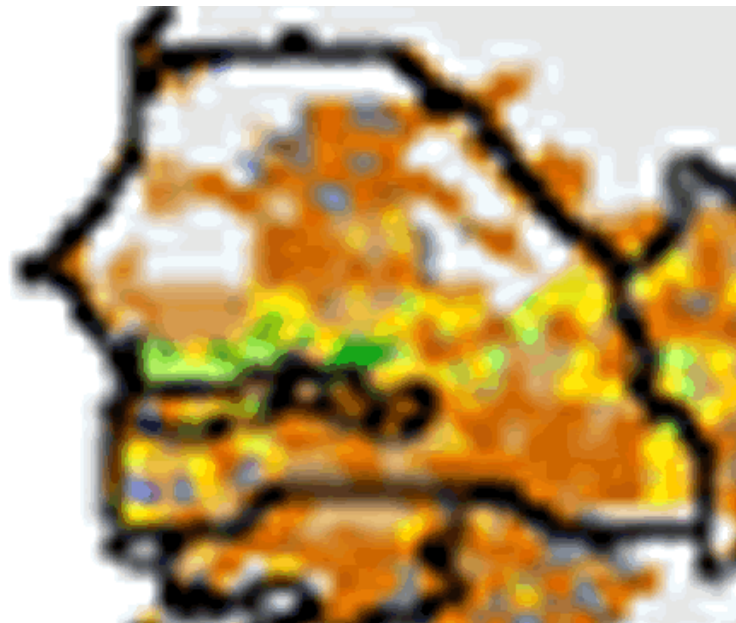
Poverty & migration
 Reduction in products & services

- Carbon sequestration
- Water quality; biodiversity
- Habitat destruction

Zones at risk to degradation

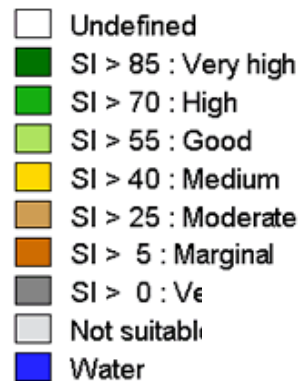
Comparison:

- Soil suitability - Results of agro-ecologic studies
- Agro-MAPS data on actual land use



GAEZ

Cultivation potential for rain-fed grain maize production (intermediate input level)



Agro-MAPS

Sénégal

Superficie récoltée - Ha.

68 - 476

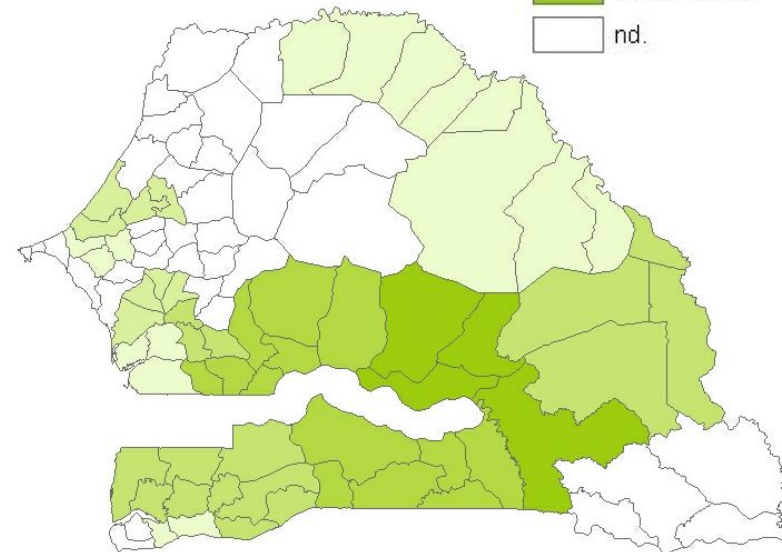
476 - 1123

1123 - 4115

4115 - 10716

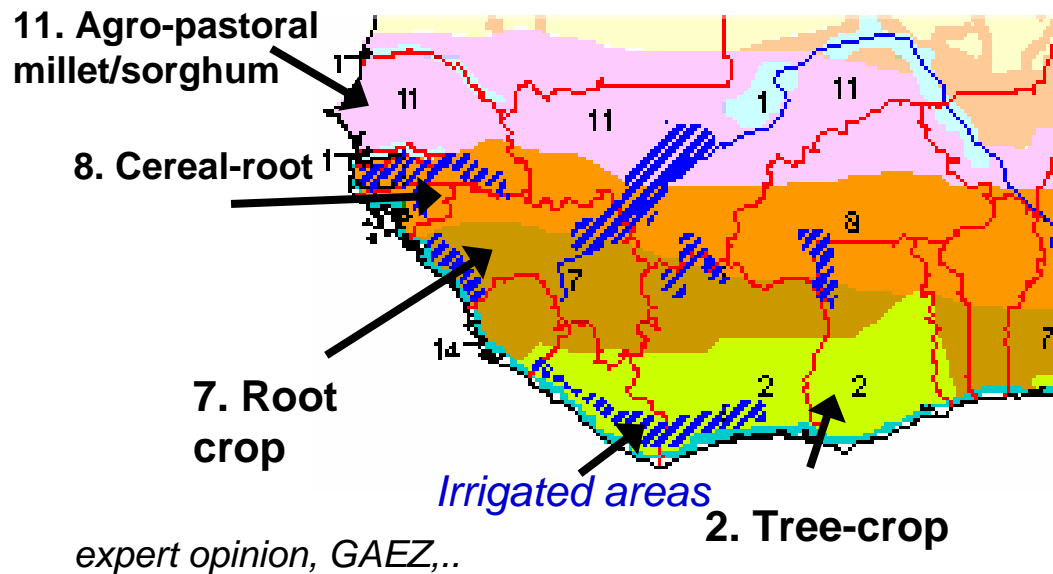
10716 - 31363

nd.



Améliorer: Répartition selon les zones des cultures au lieu des unités administratives

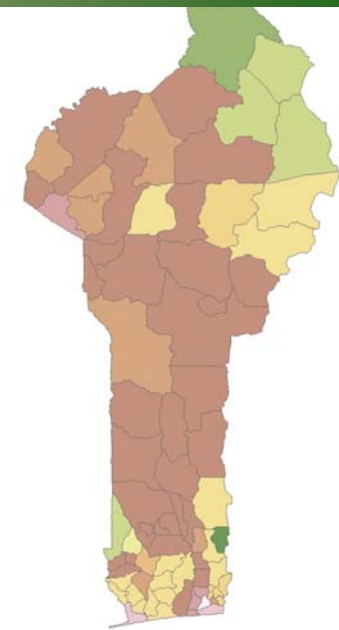
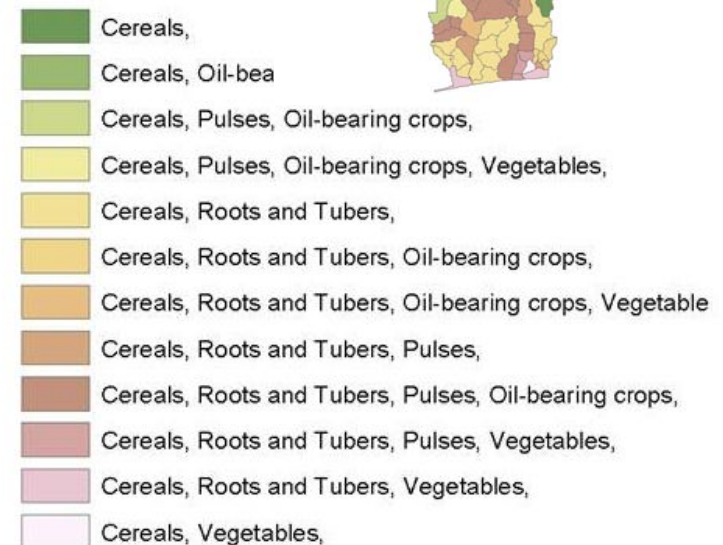
Characterization -Farming systems



Farming systems & poverty study, 2001

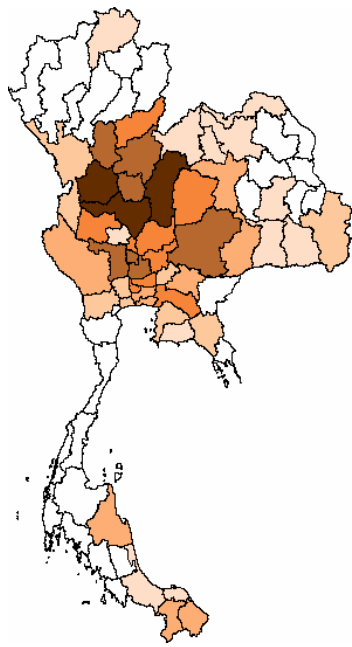
Appropriate investment strategy?

- Expansion; intensification;
- Off-farm income; abandon agriculture

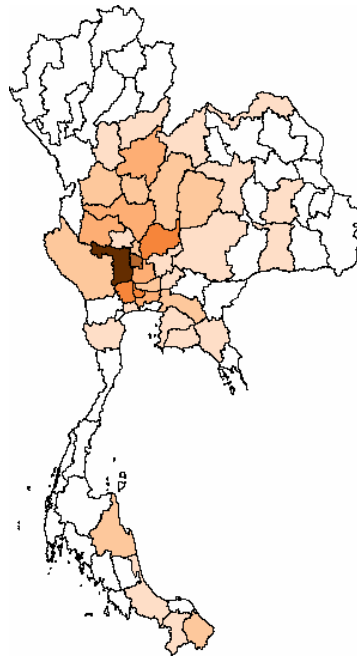


Agro-MAPS: major crop combinations

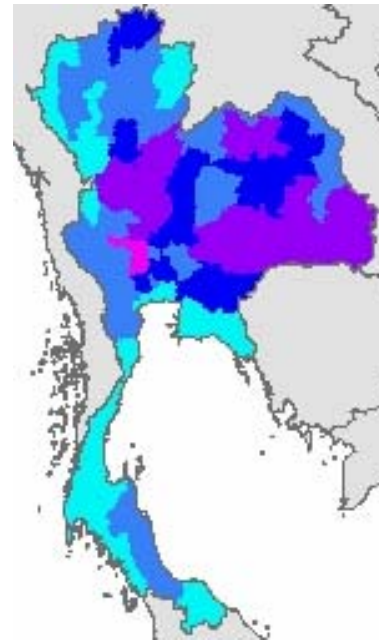
Avian flu



chickens



ducks



rice production



[Agro-MAPS site](#)
[Test site](#)
[Users guide](#)

More information ...

<http://www.fao.org/landandwater/agll/agromaps/interactive/index.jsp>

