

# how open data and knowledge sharing can facilitate regional growth: the case of agricultural sector

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[www.agroknow.gr](http://www.agroknow.gr)

WIRE 2014 conference

# **AGRO-KNOW: WHY, HOW AND WHAT WE ARE DOING**



<http://www.agroknow.gr>



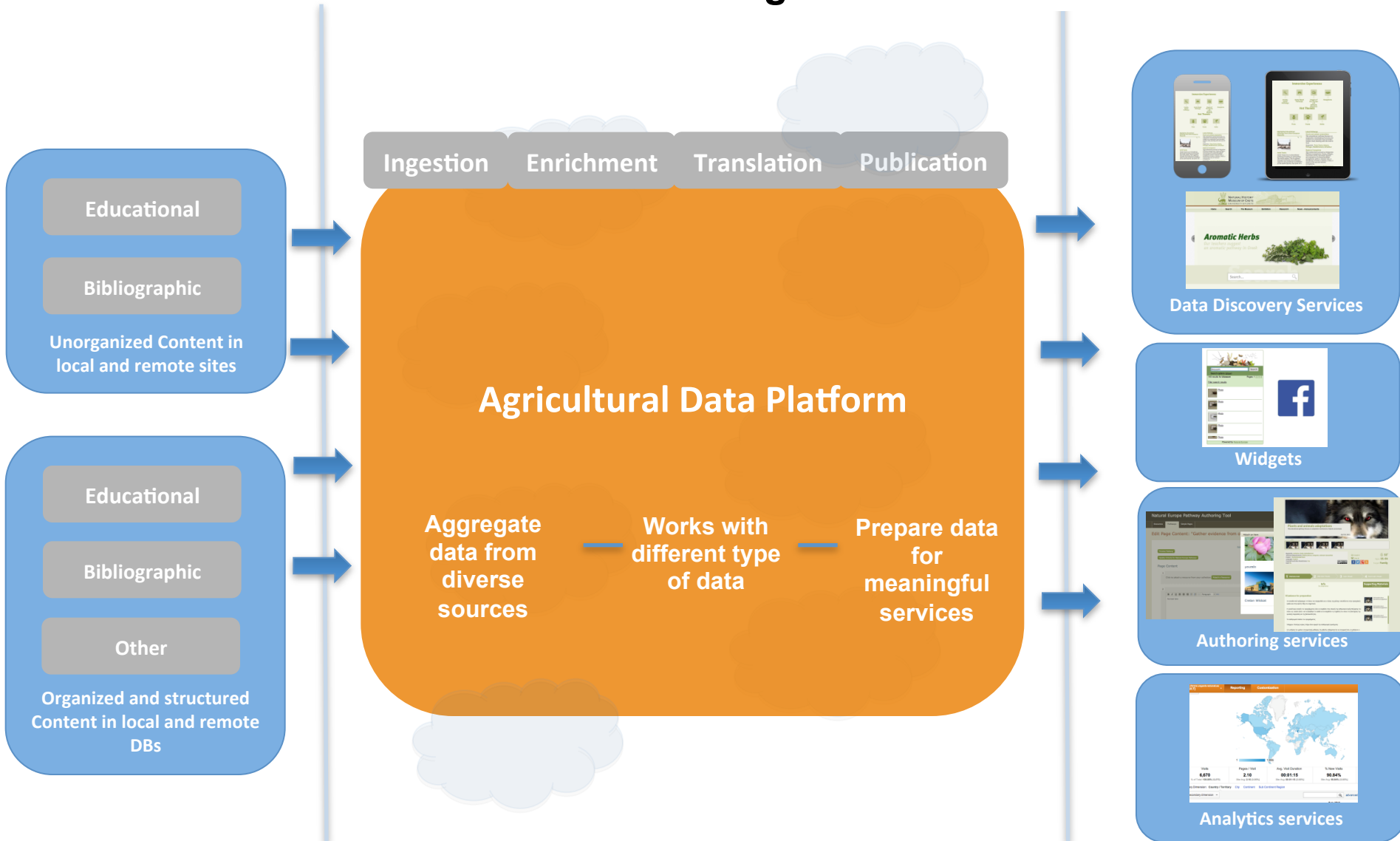
An company that captures, organizes and adds value to the rich information available in agricultural domain, in order to make it universally *accessible*, *useful* and *meaningful*.

# knowledge aggregation & sharing solutions

## Cultivation

## Harvesting

## Blossom





# open data relevant activities

- Participation in the data interoperability groups of the Research Data Alliance
  - wheat
  - germplasm
- Participation in Global Open Data for Agriculture and Nutrition (<http://godan.info/>)
- EU projects for the generation of a linked agricultural data infrastructure
  - agINFRA.eu
  - SemaGrow.eu
  - in G8 Open Data in Agriculture Action Plan for Europe

AGRO-KNOW



# **OPEN DATA IN AGRO-FOOD SECTOR**

# Agriculture is about to experience a “growth shock” in order to cover the exponentially increasing food needs of the global population

## Key facts about agricultural trends

- All **demographic and food demand projections** suggest that, by 2050, the planet will face **severe food crises due to our inability to meet agricultural demand** – by 2050:
  - **9.3 billion global population**, 34% higher than today
  - **70% of the world’s population will be urban**, compared to 49% today
  - food production (net of food used for biofuels) **must increase by 70%**
- According to these projections, and in order to achieve the forecasted food levels by 2050, **a total investment of USD 83 billion per annum will be required**
- **A large part of this investment will need to be focused on R&D**

# One of the most promising routes to agriculture modernisation is the provision of Open Data to all interested parties

## Open Data in Agriculture

- In an era of Big Data, one of the most promising routes to achieve **R&D excellence in agriculture is Open Data**, and in particular:
  - provisioning,
  - maintaining,
  - enriching with relevant metadata and
  - making openly available a vast amount of open agricultural data
- The **use and wide dissemination of these data sets** is strongly advocated by a number of global and national policy makers such as:
  - The New Alliance for Food Security and Nutrition G-8 initiative
  - FAO of the UN
  - DEFRA & DFID in UK
  - USDA & USAID in the US



search data.fao.org



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DATA  
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## Global Country Boundaries 2012 Map

(10)



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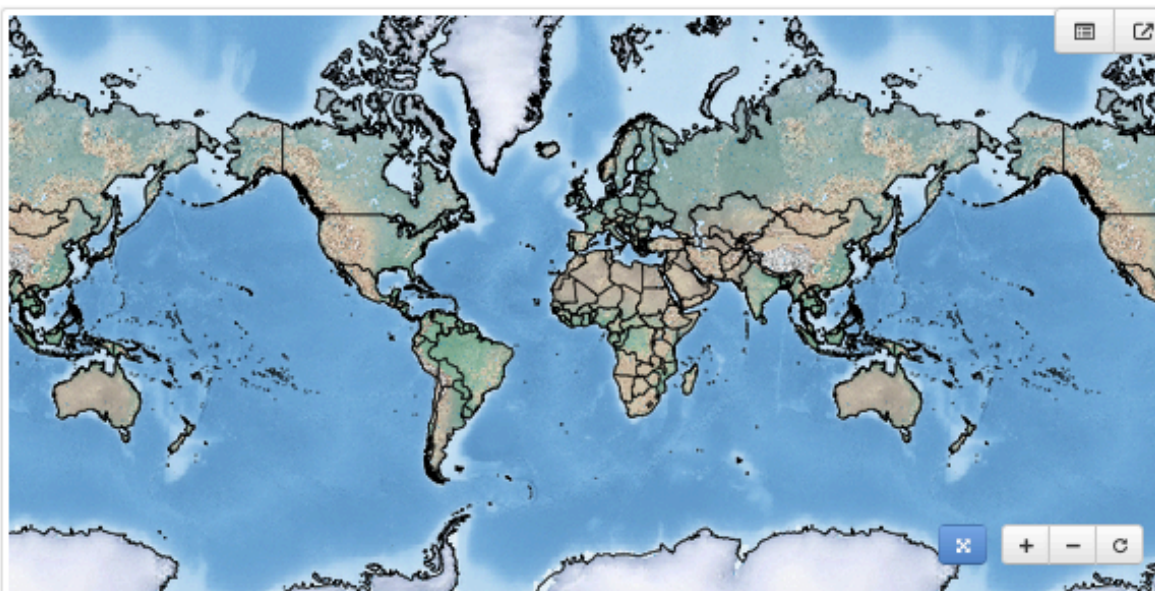
Tag

About

Metadata

Website: <http://data.fao.org>

The Global Country Boundaries 2012 shows an up-to-date national boundaries of the world. In particular, the Sudan - South Sudan boundaries and the Jammu Kashmir area have been updated. The main source comes from the UN Cartographic Section. The whole package includes the following information: 1) a (...)

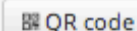


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Reference it! in 3 easy ways



Permalink



QR code

Tagged under

BOUNDARIES

Associated resources

topic (1)



Government, Administration &amp; Legislation

Other related resources (0)

Related maps (0)

photo (0)

database (1)




data.fao.org portal



## Βάση Δεδομένων

### Επιλογή set δεδομένων έρευνας >

 Για τη χρήση της εφαρμογής από μη-εγγεγραμμένους χρήστες υπάρχει ανώτατο όριο 500 εγγραφών. Με την εγγραφή σας στην ηλεκτρονική πύλη ο περιορισμός αυτός δεν ισχύει.

### Βήμα 1ο : Επιλέξτε set δεδομένων έρευνας

- Αγορά Εργασίας
- Αλιεία
- Βιομηχανία
- Γεωργία
  - Αμπελουργικές καλλιέργειες
  - Γεωργικές εκτάσεις (Προσωρινά στοιχεία)
  - Καλλιέργειες (εκτός αμπέλων)
- Δικαιοσύνη
- Εισόδημα-Δαπ. Νοικοκυριών
- Εμπόριο-Υπηρεσίες
- Κτηνοτροφία
- Μεταφορές
- Οικοδόμηση-Κατασκευές
- Πληθυσμός
- Πολιτισμός-Ψυχαγωγία
- Τουρισμός
- Υγεία-Κοινωνική Προστασία
- Urban Audit

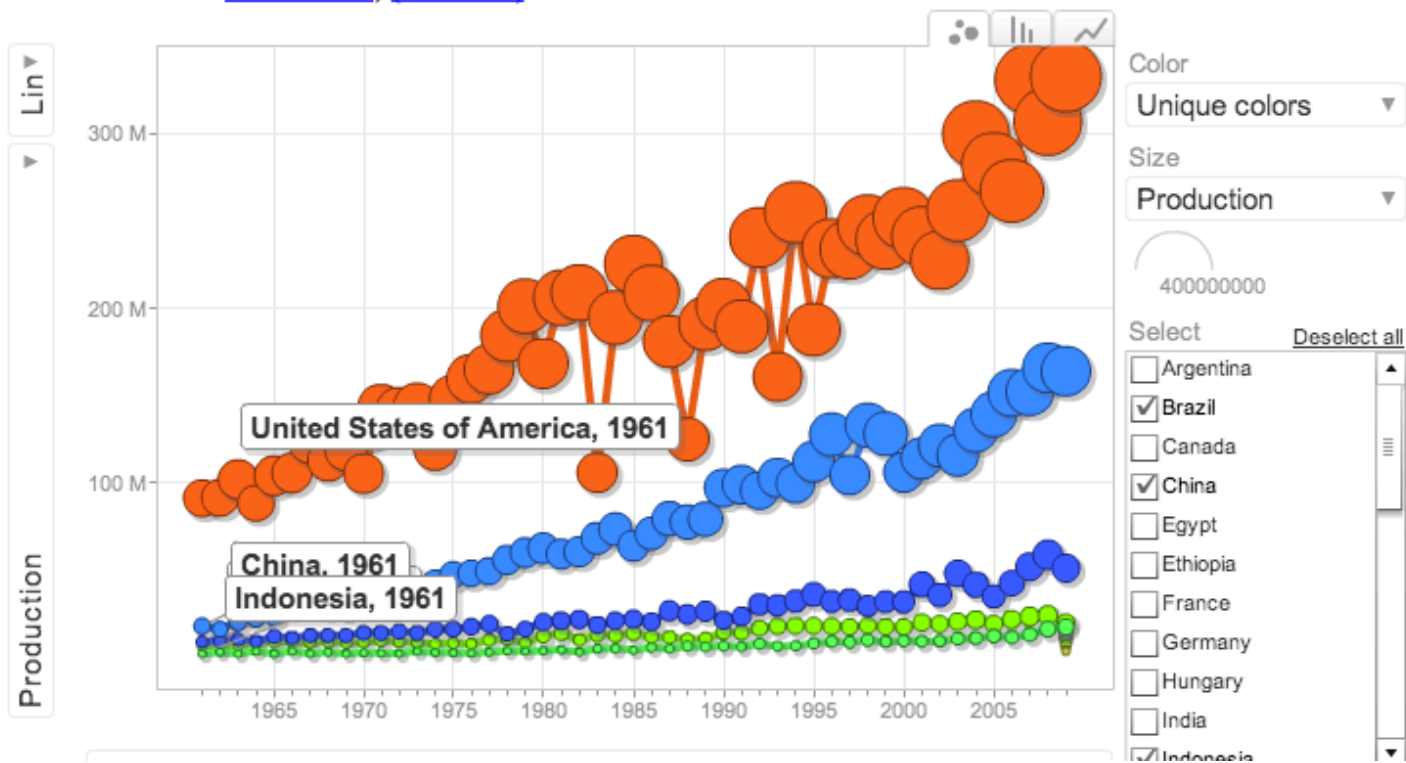
Επόμενο >

## Maize Main Market Players

Print

Main Market Players Maize Production Maize Exports Maize Imports

Based on the top 25 main country producers from the last 5 years, this tool allows users to keep track of the historical levels of production (in tonnes) and the market share of today's top world producers dating from 1961 to 2009. Data can be visualized as a motion track Gampinder-type chart, a motion untracked bar chart, or a static line chart depending on the tab selected. [Source: FAO, \(Raw Data\)](#)







# Data

[By Country](#)
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## Greece

Income level

**High income: OECD**

GDP (current US\$)

**\$249.1 billion 2012**

Population, total

**11.28 million 2012**

### BROWSE

- World Development Indicators
- Projects & Operations
- Finances
- Surveys
- Climate

## World Development Indicators

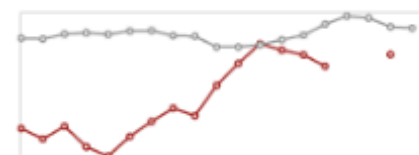
Graph, map and compare more than 1,000 time series indicators from the World Development Indicators and more than 5,000 indicators from other collections such as Gender Statistics, African Development Indicators, and Education Statistics.

DATABANK

DOWNLOAD DATA

### School enrollment, primary (% gross)

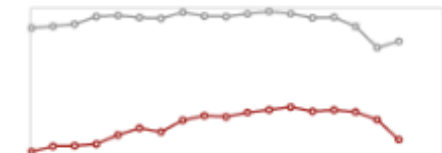
**101%** 2010



■ Greece ■ High income: OECD

### CO2 emissions (metric tons per capita)

**7.7** 2010



■ Greece ■ High income: OECD



#### Open Data

Easier and better access to FDA data.

Developer-focused APIs, raw data, and documentation for a curated set of high value public FDA datasets.

#### Open source

Code and documentation.

Open source code and documentation, shared on [GitHub](#).

#### Open community

Share examples, apps, and stories.

Developers, researchers, and FDA in one shared community. Join us on [GitHub](#), [StackExchange](#), and [Twitter](#).



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## Introducing openFDA

More than 3 million adverse drug event reports at your fingertips.

Adverse drug event reports, 2004 to 2013, where an indication for use was hypertension



openFDA provides open APIs, raw data downloads, documentation and examples, and a developer community for an important collection of FDA public datasets.

[About openFDA](#) »

# open data is not always ready to be used....

- Messy data
- Should be collected/fused
- Should be filtered
- Should be validated
- Should be enriched with metadata to become discoverable
- Should be standardized to allow interoperability

# opportunities for data oriented SMEs

1. Help organizations to open their data
  - consulting services
  - open source software as a service
2. Develop meaningful services using open data
  - data processing to improve quality
  - end users apps

# **USING OPEN DATA AND KNOWLEDGE SHARING IN AGRO-FOOD SECTOR**

# using open data to build an open and scalable infrastructure for food safety

Global  
Food  
Safety  
Partnership



SAFER FOOD  
STRONGER ECONOMIES  
HEALTHIER WORLD

## Resource Types



Training Courses



Open Educational  
Resources



Statistics &  
Indexes



Publications

## Research Themes



Food Security



Foodborne diseases



Codex Alimentarius

## Featured Content Providers



FSKN



IFPTI



NCFPD

GMA

GMA



IFPRI



FAO



FAO-STAT



TWB

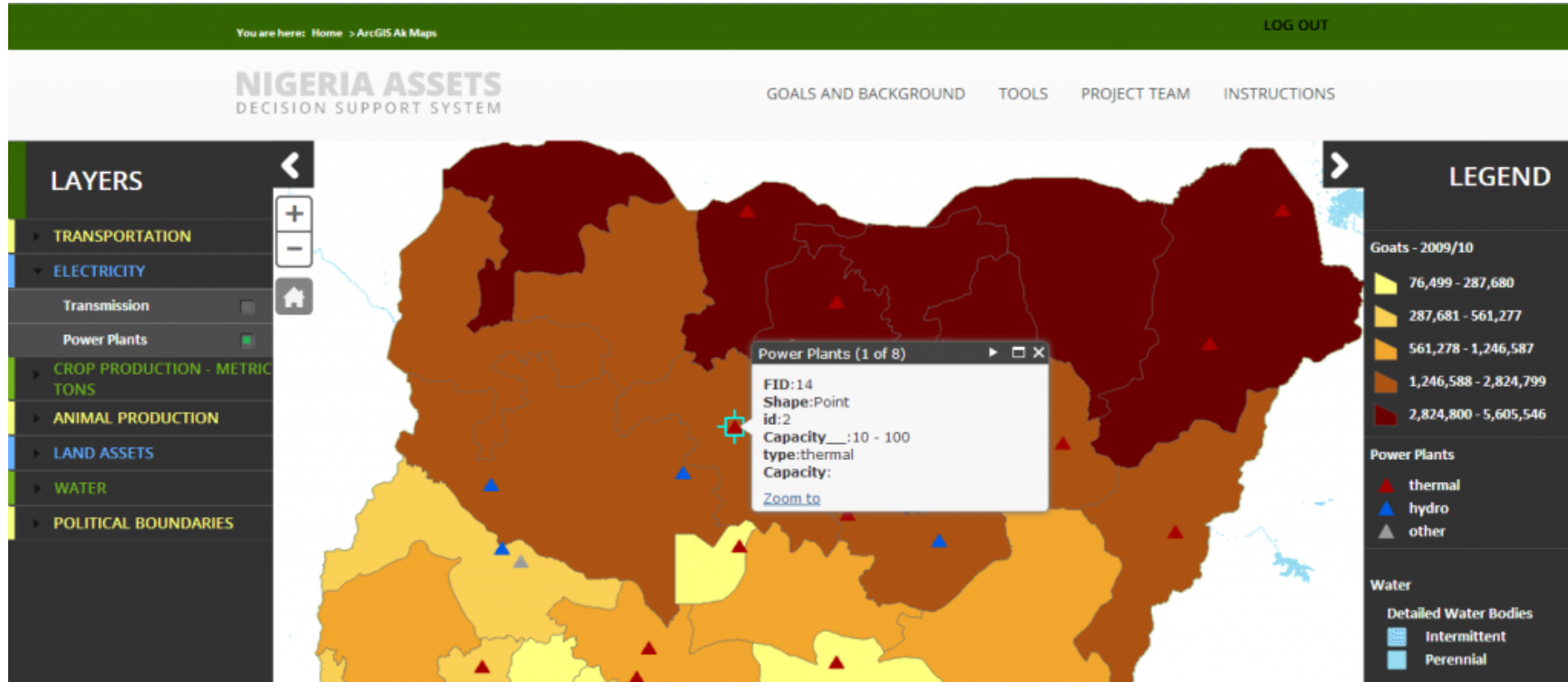
Global  
Food  
Safety  
Partnership

SAFER FOOD

STRONGER ECONOMIES

HEALTHIER WORLD

# using open data to support decision making for regional growth



## Minerals Prospecting Tool

Launch Tool

### Transformation Agenda Goals

### Purpose of the Tool

### Data in Tool

#### Transformation Agenda Goals

In accordance with the President's Transformation Agenda, the Federal Ministry of Solid Minerals Development has undertaken the most ambitious inventory to date of Nigeria's mineral assets. Leveraging this inventory, the Nigeria Assets Decision Support System allows users to browse mineral deposits by geographic location using the Minerals Prospecting Tool. The Ministry's inventory initiative is ongoing and the Minerals Prospecting Tool will provide more robust data as it becomes available.

Mineral assets that enable economic growth include:

- Places with rich mineral deposits
- Places with existing or available human capital
- Places with critical infrastructure, such as electrical power, water availability, and distribution infrastructure

This decision support tool allows for easy identification of these places and clear investment opportunities to fill gaps if one or more of assets are missing in a place that is otherwise ideal for mines and minerals industry success and economic growth around that sector.

**browse agricultural resources and activities by geographical region to understand opportunities for growth at regional level**

# using open educational data to support training on organic agricultural

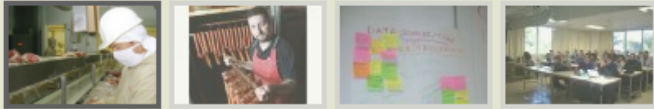
The screenshot displays the Organic.Edunet website interface. At the top, there is a navigation bar with 'Organic.Edunet', 'Sign In', and 'Register' on the left, and 'Auto-translate ON' and 'English' on the right. Below this is a search bar with the text 'tomatoes' and a dropdown menu showing language options: Deutsch, Eesti keel, English (highlighted), Español, Ελληνικά, Français, Italiano, Latviešu valoda, Türkçe, Polski, العربية, and Русский язык. The main content area features a 'Multilingual content discovery' section with the text: 'You can easily search using your native language and discover educational resources in languages other than the language of your search'. Below this is a list of search results, each with a number and a title, and a small box indicating the language of the resource:

- 1 Hangman - Cultivars (Greek)
- 2 UC pest management guidelines : tomato, loopers (English)
- 3 Organic tomato production (Estonian)
- 4 Growing Tomatoes in Greenhouse (Turkish)
- 5 Tomato (German)

At the bottom right, a green text box states: 'localize to specific region by adapting content and using state of art language technologies'. The text 'Results in all languages' is visible at the bottom center.



# localizing open educational data to train the trainers



## Title: Manager of a small meat producer

Description: This pathway presents the role of the manager of a small meat producer, the competences he should possess, how he could improve his skills and a scenario of using GFSP learning infrastructure training opportunities.

Language: English

## Relevant training opportunities for this persona

### Ways of improving the competences

The manager of the small meat producer company improves his competences by searching for relevant material on portals, like the GSFP site. He enters various terms in the search engine and gets the following results as the below:

1. Hazard Analysis Critical Control Points (HACCP)
2. Methods of Determination for Drug Residue in Meat and Poultry
3. Methods of Determination for Artificial Colors in Foods
4. International Short Course in Food Safety

For more information see the supporting material.

The manager visits all the interesting resources that he found and he gets the information he needs for improving his skills.

## Job profile description of the persona

The manager of the meat producer company is experienced in producing cooked ham to an international food distribution company. Still he would like to find out more about the market for ham.

In the supporting material a manager can find information about the market for ham.

## Relevant competences that p

The competences that a manager should possess are:

1. Legal knowledge & customer requirements
2. Team Management Skills
3. Management of Product Quality (see supporting material)
4. Quality Management and Assurance



Meat producer



Competences





# organizing events to spur innovation



challenges



creativity



hack using open data



excellence



# transferring innovation to the regional ecosystem



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- Home
- Cooperative
- Our Farmers
- Stevia Rebaudiana
- Education
- Contact Us



## STEVIA HELLAS

### Our Cooperative

The establishment of the Agricultural Cooperative STEVIAS HELLAS was held in 2012. The head office of the Cooperative is located in the city of Lamia. Mainly our members are activated in Central Greece (mainly in Fthiotida Prefecture) and in the prefectures of Thessaly.

[READ MORE..](#)

collaboration with stevianet.gr



- HOME
- PRODUCTS
- ABOUT
- TASKS



0 °C TEMPERATURE	31 °C TEMPERATURE	on BOARD
off SOUND	off LED	off LED

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experiment

Untitled layer

- Άροτρο Λυγαριά
- Άροτρο Λυγαριά
- Λιπασματοδιανομέας Λυγαριά
- Περιστροφικό Μηχάνημα (Τσουγκράν
- Σκαλιστήρι Λυγαριά
- Σταρτική μηχανή σιτηρών
- Τρακτέρ Λυγαριά
- Τρακτέρ Λυγαριά
- Χορτοκοπτικό Μηχάνημα Λυγαριά
- Χορτοδετική μηχανή Λυγαριά
- Επικοινωνήστε μαζί μας στο 22310 - 2
- Καλλιεργητής Λυγαριά

Base map



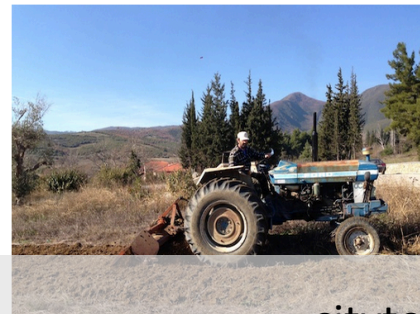
platform for ag-machinery sharing

CITY TO FARM

- HOME
- ABOUT
- PROGRAM
- COORDINATORS
- SPEAKERS
- SUPPORTERS
- LOCATION
- REGISTRATION
- ΕΛΛΗΝΙΚΑ

### THE EVENT IS ADDRESSED TO:

- Young growers who want to make the transition from town to countryside.
- Existing growers interested in participating in some of the projects.
- Investors who wish to invest in the primary or secondary sector.
- Enterprises of the agri-food sector.

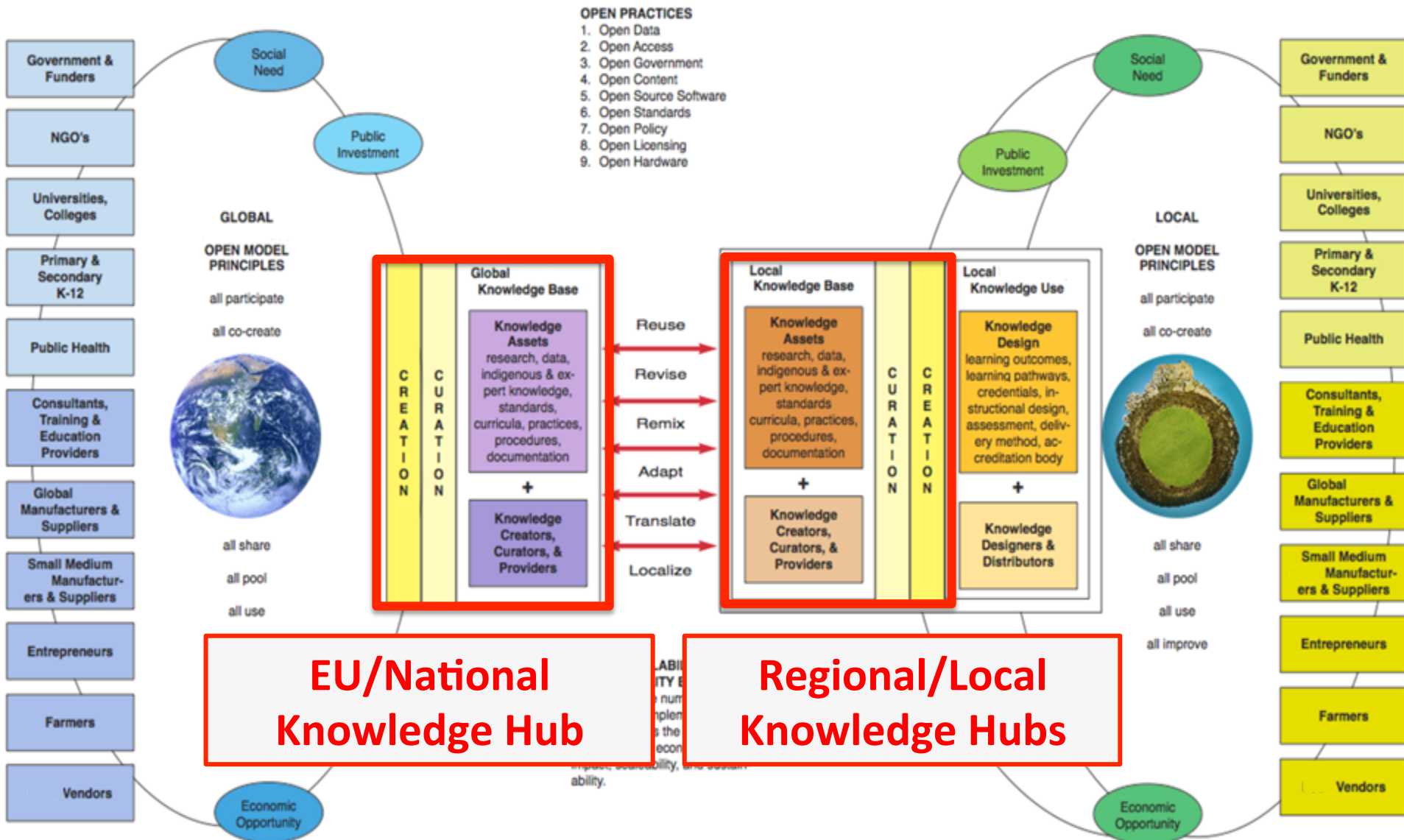


Lentils, sea buckthorn, dinkel, wheat and some other... citytofarm.gr "City to Farm" is willing to support with all the necessary tools a team of 10 young farmers, that will emerge from the event

citytofarm.gr

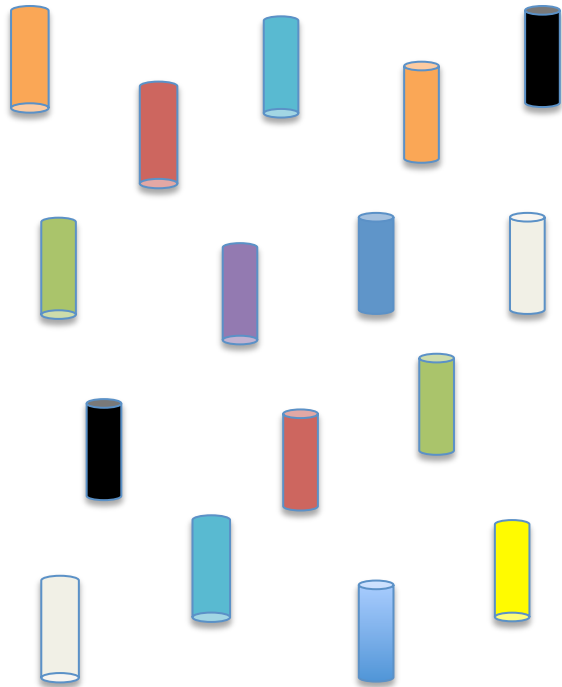
**HOW WE COULD SHARE KNOWLEDGE  
BETWEEN EU/NATIONAL AND  
REGIONAL COMMUNITIES?**

# adopting open business models

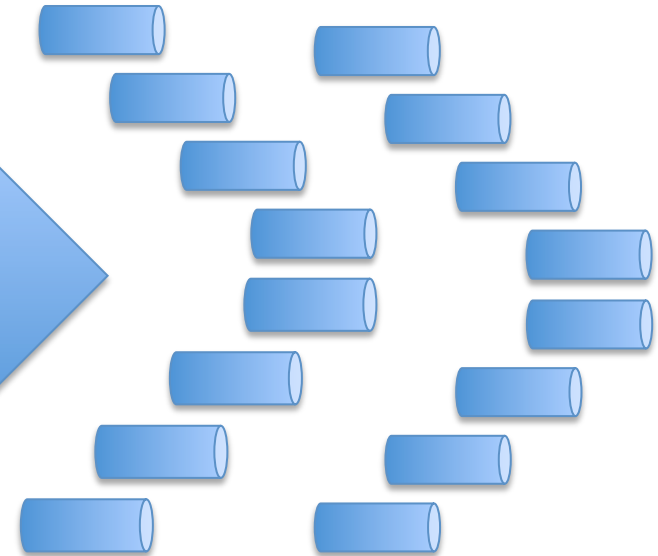


# taking stock of other existing work

Separate Independent (variably linked) actions



Collective and Cohesive Approach  
(More Collaboration, Coordination,  
Communication, Connection)



thank you

[stoitsis@agroknow.gr](mailto:stoitsis@agroknow.gr)