## Building the capacity for implementing **GIS** applications

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#### **OIE cooperation project -** <u>**Partners</u></u></u>**

# Capacity development for implementing a **Geographic Information System** (GIS) applied to surveillance, control and zoning









Chinese Academy of Inspection and Quarantine (CAIQ)

## **OIE cooperation project - Objectives**

- 1. To build the capacity to design and apply GIS tools for surveillance, control and zoning to facilitate the trade of livestock and livestock products
- 2. To acquire expertise to organize basic **GIS training** on surveillance, disease control and zoning procedures
- 3. To acquire expertise for **guiding other GIS zoning activities in the Region**



#### **OIE cooperation project - <u>Activities</u>**





#### **OIE cooperation project - Outcomes**

1. Implementation of a GIS and constitution of a GIS office at the CAIQ headquarters 2. Implementation of a system for the management of spatial and nonspatial information related to the approval of importing (quarantine stations) and exporting farms





Morini M, Fan J, Xiaofei L, Shulong D, Xiangmei L, Morini M, Fan J, Xiaofei L, Shulong D, Xiangmei L, Marangon S (2016) GIS applications to support entry-exit inspection and quarantine activities. In: Gervasi O, Murgante B, Misra S, Rocha AMAC, Torre CM, Taniar D, Apduhan BO, Stankova E, Wang S (eds.), Computational science and its applications—ICCSA 2016: 16th International Conference, Beijing, China, July 4–7, 2016. Proceedings, Part III. Springer International Publishing, Cham, pp. 85–97

#### **OIE cooperation project - Outcomes**

#### 3. Regional GIS course



#### 4. Proposal of a standard for the geographical component of

(†)



#### Workshop: The development of a standard for the zoning geographical component

This workshop is jointly organised by the Istituto Zooprofilattico Sperimentale delle Venezie (IZSVe) and the Chinese Academy of Inspection and Quarantine (CAIQ) within the framework of the OIE cooperation project "Capacity development for implementing a Geographic Information System (GIS) applied to surveillance, control and zoning of Avian Influenza and other emerging diseases in China'

The workshop provides an opportunity for the OIE Collaborating Centres dealing epidemiology to share their experiences on zoning, to exchange knowhow about the possible of international geographical standards, and to assess the validity, applicability, sustainal appropriateness and opportunity of implementing a first-cut data product specification for the geographical component based on the Chapter 4.3 of the OIE Terrestrial Code.

The workshop takes place in Beijing - China on 17th October 2018 and will be followed I to-back by the final workshop of OIE Cooperation project.

#### VENUE

Beijing - CAIQ Headquarter Ronghua NanLu Rd, No.11 Beijing Economic-Technological Development Area Yizhuang Beijing, 100176, P. R. China

#### DATE

17th October 2018.

Mr. Nicola Ferrè

#### WORKSHOP SECRETARIAT

For logistical and practical information

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# Example of real application of GIS developed during the project

- Livestock import ( desktop GIS applications )
- Livestock export (webGIS application)
- Specific animal disease free zone (inside and outside China)

#### Livestock import





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兼容浏览器: Mozilla Firefox, Google Chrome, Opera 12/16, Safari 5, Internet Explorer 8. 推荐浏览器: Mozilla Firefox, Google Chrome, Opera 16.

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#### **Specific animal disease free zones**



## Why GIS

## .. it's the technology to produce maps..

**GIS**: a system for capturing, storing, checking, manipulating, analysing and displaying data which are spatially referenced to the earth



A map is worth thousands of words

"...whenever you look at a map, you inherently start turning that map into information by finding patterns, assessing trends, or making decisions"

Prof. Willem van Riet - Conservationist

## Why GIS



The power of GIS lies on the ability to **relate different information** in a spatial context and to reach a conclusion about this relationship

#### Management of epidemic events

- To detect infected herds
- To define infected areas
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Management of epidemic events Management of the territory

- To identify densely populated livestock areas
- To define the level of proximity among livestock holdings



Management of epidemic events Management of the territory Epidemiological surveillance

- To define the area at-risk
- To draw risk maps



Management of epidemic events Management of the territory Epidemiological surveillance Research

- Spatial analysis
- Geostatistical model



#### **GIS - Return of Investment**



http://cgia.org/wp-content/uploads/2013/04/Managers-Workshop\_4\_The-Business-Case-for-GIS.pdf

- Improve efficiency
- Increase productivity
- Save time
- More effective decisions

- Improve data accuracy
- Automated workflow producers
- Improve information processing
- Comply with state mandates

- Improve communication
- Provide data to stakeholders
- Improve citizen access to government

#### **Capacity building - perspective**

## Learning about GIS and learning through GIS

Learning about GIS:

• educational programmes to train GIS users

Learning through GIS:

- as a tool for decision making and evaluation
- GIS and geospatial analysis can also help in developing data analysis

## **Capacity building - perspective**



