

Presentation of the Cooperation Project goals

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Project goals

Capacity development for implementing a Geographic Information System (**GIS**) applied to surveillance, control and **zoning** of avian influenza and other emerging avian diseases in China

Overall project plan description

- **Disease addressed by the project:**
Avian influenza and other emerging avian diseases
- **Length of project:** 36 months
- **Objectives:**
acquire expertise to introduce, design and implement GIS applications for surveillance, disease control, and zoning;

Disease situation in the region

- China has faced epidemics caused by the H5N1 and other influenza virus subtypes such as the recently emerged H7N9 LPAI
- ..
- the Chinese poultry production capacity has increased to 11 billion birds per year including almost 7 million poultry for the Hong Kong and Macao markets
- ..

How the project will meet the objectives

- GIS can be beneficial to veterinary organisations by providing a means to map their own data and also a graphic **communication platform** accessible to other organisations;
- it is necessary to integrate well-designed GIS framework into the **organisational workflow** of veterinary data management system;
- a system that integrate GIS data, with epidemiology and surveillance data, can hide complexity from users, minimise mistakes and enhances the transparency through inter-application operability, **communication** and cooperation;

Intended outcomes – 1 of 3

CAIQ will acquire the capacity to design and introduce GIS tools for surveillance, control and zoning, increasing both the effectiveness of epidemic controls and the certification of products of animal origin for trade, **based on the OIE standards.**

Intended outcomes – 2 of 3

CAIQ will acquire expertise to **organize basic GIS training** on surveillance, disease control and zoning procedures.

Intended outcomes – 3 of 3

CAIQ will acquire the practical principles for building the animal identification and traceability infrastructure **enabling the possible establishment of a national reference center with the mandate of maintaining the expertise, guiding other GIS surveillance and zoning activities in China and in the Region**

Practical activities

- practical principles on surveillance,
- practical principles on identification and traceability of live animals
- GIS management techniques
- spatial statistical analyses and spatial models integrated with GIS applications

Phases

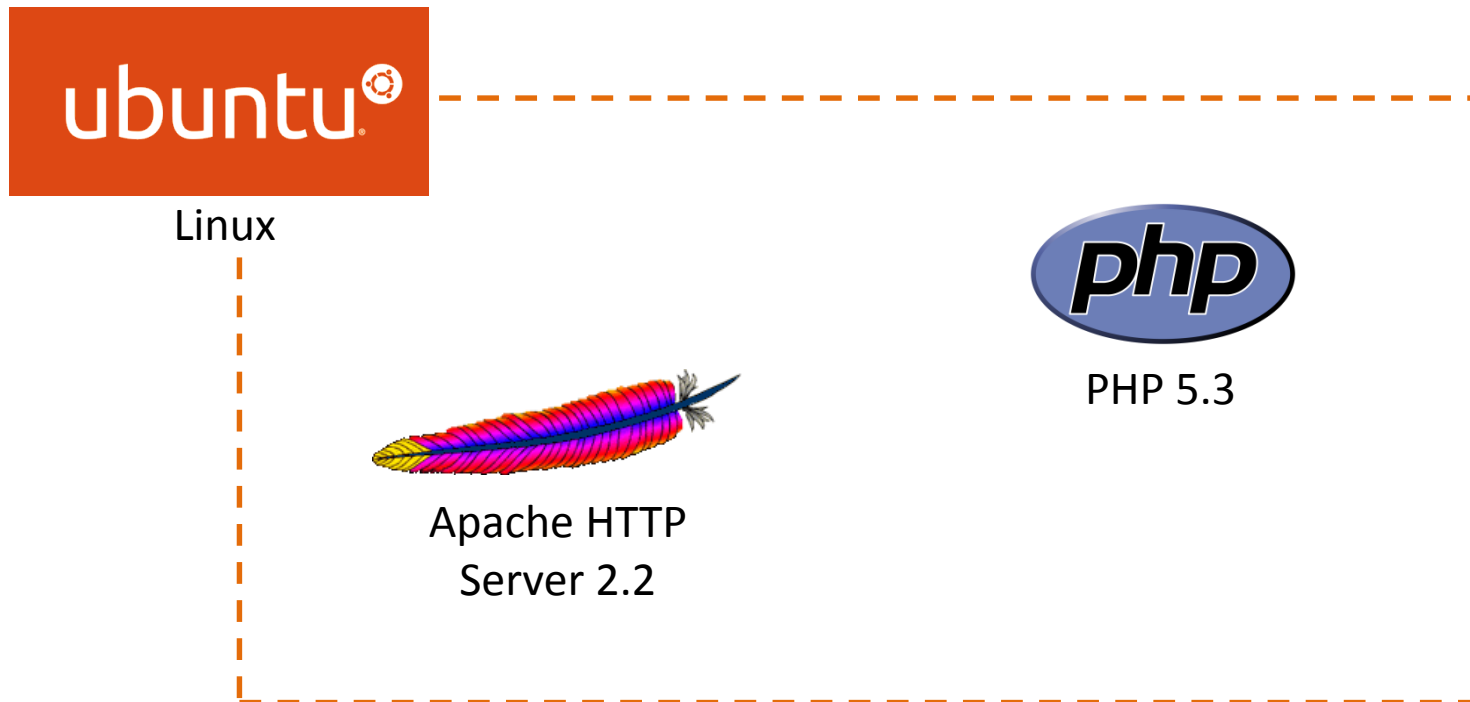
- **Phase 0.** Cooperation project inception for project presentation and agreement on agendas
- **Phase 1.** In depth assessments for preparing the ground for building practical capacity
- **Phase 2.** Capacity building and knowledge transfer on epidemiological methods, GIS and spatial analysis techniques
- **Phase 3.** Post training assessment.

Phase 0 – Inception phase

- outlining and sharing the project formulation and objectives with local CAIQ cadres in order to establish transparency, commitment and receive feedback for refining the design and organisation of the project activities;
- identifying the Candidate Institute's **aspirations** and gaps to be filled;
- setting dates of the training and exchanging visits;
- discussing the criteria of personnel selection at CAIQ

Phase 0 - Inception

- Setting of a Web Server that will host the project website.



Phase 0 - Inception

- Setting of an FTP Server and Dropbox folder that will host all useful files (private and public) to the project.



FTP folder: ftp://90.147.123.12/OIE_Coop_IZSve_CAIQ

Username: OIE_IZSve

Password: H725!klm



Dropbox folder on invitation.

Folder name: OIE Cooperation project IZSve – CAIQ

[Link](#)

Phase 0 - Inception

- A website dedicated to the cooperation project will be developed.

Home

Capacity development for implementing a Geographic Information System (GIS) applied to surveillance, control and zoning of avian influenza and other emerging avian diseases in China .



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Links

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Currently Test page on <http://gis.izsvenezie.it/tests/OIE/IZSVe-CAIQ/index.php>

Phase 1: Preparatory activities

1. **review** of the relevant updated **bibliography** on GIS organisational workflow, spatial and spatial-temporal analysis applied to animal surveillance, as well as of the OIE standards and guidelines related to zoning;
2. **baseline assessment of CAIQ** focusing on actual organisation, competencies and needs for improving their territorial disease control capacity;
3. **assessment of the currently available base of spatial data** and the **Chinese legal framework which regulates their use.**

Phase 1: Preparatory activities

Activity 1.1 Collation and search of relevant updated information

- An analysis of the updated relevant literature and of the experiences on zoning

 **review**

- free web program for managing and sharing research papers

Mendeley

Zotero

..

Phase 1: Preparatory activities

Activity 1.2 Baseline assessment of GIS organisation and capacity in CAIQ:

- available equipment, network and IT set-up
- existing GIS expertise
- GIS methods/procedures in place

Phase 1: Preparatory activities

Activity 1.2 Baseline assessment of GIS organisation and capacity in CAIQ :

- GAP analysis
- potential challenges of the trainees in the participation of the training activities
- trainees' expectations

Phase 1: Preparatory activities

Activity 1.2 Baseline assessment of GIS organisation and capacity in CAIQ :

- identify and select workable dataset containing data on surveillance, identification, and traceability of live animals
- available base of spatial data – preliminary evaluation

Data policy

Phase 1: Preparatory activities

Activity 1.3 **Introductory Workshop:**

- Title: ..
- Objective: improving GIS awareness
 - Goal 1: present the cooperation program
 - Goal 2: present activities related to GIS methods and the tools to be used for surveillance, control and zoning
- Target: CAIQ scientists, data manager

Phase 2: Capacity building

Training activities

1. Training of two CAIQ scientists on GIS planning at the IZSVe
2. Training of all the relevant CAIQ staff on GIS (basic GIS course)
3. Training of two Candidate Institute scientists on GIS management at the IZSVe Parent Institute
4. Training of two CAIQ scientists on GIS analysis at the IZSVe Parent Institute
5. Training of four (two plus two) Candidate Institute scientists on Zoning at the IZSVe

Phase 2: Capacity building

Coaching activities

1. Coaching of the CAIQ - GIS laboratory
2. Editing a conceptual model for developing Zoning areas in China

Phase 2: Capacity building - training

Activity 2.1. Training of two CAIQ scientists on GIS planning at the IZSVe

Activity 2.1.1. Based on the results of A1.2 and 1.4 a training program will be jointly defined starting from the following arguments:

- Introductory GIS components
- Advanced GIS and ESDA
- Setting up a GIS laboratory
- ..

Activity 2.1.2 exchange of training experiences among CAIQ scientists

Phase 2: Capacity building - training

- **Activity 2.3. Training of all the relevant CAIQ staff – Basic GIS course**

A “GIS course for veterinary applications” will be devised and developed by the CAIQ scientist in Chinese language with the support of IZSVe scientists. The course will be aimed to training the CAIQ staff on using the GIS technologies

The training program will be jointly defined starting from the following arguments:

- GIS I: Organizing principles and data display
- GIS II: Data management
- GIS III: Data analysis

Phase 2: Capacity building - training

Activity 2.5. Training of two Candidate Institute scientists on GIS management at the IZSVe

A training on GIS management will be implemented in order to train two Candidate Institute scientists as a GIS manager

The training will provide notion on building laboratory capacity on procedures and methods for planning the GIS, evaluating potential data sources, testing available hardware and software and planning for its acquisition, building the GIS data base, developing GIS applications, and planning for the long term maintenance of the GIS system and data base

Phase 2: Capacity building - training

Activity 2.5. Training of two Candidate Institute scientists on GIS management at the IZSVe

The training course will be based on the following themes:

- Setting project goals and objectives.
- Developing GIS policies and procedures.
- Coordinating GIS planning and analysis.
- Designing and implementing organization GIS standards or structured frameworks.
- Planning, setting and tracking GIS-related budgets.
- Monitoring performance against plans and establishing resolution actions.
- Supervising, monitoring and evaluating the work of GIS staff.
- Recommending and developing GIS and related training programmes.
- Coordinating and leading GIS initiatives with external organizations.
- Evaluating technological advances and promoting the usage of appropriate technology
- Training on , metadata and catalogue service, software installation and tuning

Phase 2: Capacity building - training

Activity 2.6. Training of two CAIQ scientists on GIS analysis at the IZSVe

A training will be implemented in order to training two Candidate Institute scientists as GIS analyst

Preparatory materials will be submitted to the candidate trainees in order to provide basic knowledge of the tools and software to be used. The output is building laboratory capacity on GIS analysis and spatial modelling

Phase 2: Capacity building - training

Activity 2.7. Training of four (two plus two) Candidate Institute scientists on Zoning at the IZSVe

A training will be implemented focuses on presentation of the strategies, framework and tools developed by the IZSVe for zoning definition and management

A combination of theoretical lessons, simulation exercises, field trainings and open discussion will be used to training the trainees on the essential elements for the development of systems and infrastructure useful to define workflow methods for zoning definition and management

Phase 2: Capacity building - training

Activity 2.7. Training of four (two plus two) Candidate Institute scientists on Zoning at the IZSVe

The training address the following:

- OIE code chapter 4.3 on zoning and compartmentalisation.
- OIE standards and guidelines related to trade and poultry diseases.
- Other OIE generic chapters such as relating to Avian Influenza, Disease Surveillance, Identification and Traceability, etc.
- Workflow on zoning design, implementation and management.
- Presentation of the information system in use at IZSVe that are integrated on the zoning workflow.
- Presentation of the organisational aspects about surveillance, identification and traceability of live animals in use by the Parent Institute

Phase 2: Capacity building - coaching

Activity 2.4. Coaching of the CAIQ GIS laboratory organisation

CAIQ progresses will be monitored and supported by means of coaching missions from the parent to the candidate laboratory. The missions will assess whether the laboratory essential elements defined during activity 2.1 (Training of two CAIQ scientists on GIS planning) are adopted by CAIQ

Phase 2: Capacity building - coaching

Activity 2.8. Editing a conceptual model for developing Zoning areas

To ensure that Candidate Institute has the appropriate know-how for developing and implement effective zoning projects, a conceptual model should be defined

Goal: to produce a joint document that will highlight the main features of the conceptual framework for the zoning procedure.

Phase 3: Establishment of GIS and zoning capacity

- Audit - Simulation exercise
- Action Plan for introducing the GIS based OIE compliant zoning strategy
- Final workshop and press conference

Phase 3: Establishment of GIS and zoning capacity

Activity 3.1. Strengthening the CAIQ GIS laboratory

Strengthen the organisational capacity on:

- analysis of GIS specific requirements (user needs);
- integration of requirements and development of GIS specifications (design);
- acquisition and aggregation of the necessary data in a system tailored to the required application (implementation)
- collection of epidemiological and GIS data: on site testing;
- application and maintenance of GIS (maintenance).

..to make CAIQ ready for the audit

Phase 3: Establishment of GIS and zoning capacity

Activity 3.2. **Audit** - Simulation exercise

The main elements of the simulation exercise will be the following:

- On the basis of the spatial data set managed by the CAIQ, the IZSVe scientists will define the spatial object that should be included in the simulation exercise;
- Debriefing session related to the simulation exercise and review of the paper prepared by the IZSVe to summarise all the observations/comments and feedback provided by participants and observers during the exercise;
- Simulation exercise;
- Collection of the feedback papers;
- Analysis of the key test points of the exercise (Information Flow, Decision Triggers, Roles and Responsibilities);
- Editing of a recommendations document.

Phase 3: Establishment of GIS and zoning capacity

Activity 3.3. **Final assessment** CAIQ GIS laboratory

The GIS laboratory completeness, its organisational frameworks and the accuracy of the GIS outcomes will be evaluated by Parent Institute scientists in order to assess also the fulfilment of trainees' expectations as regards to the transfer of knowledge

Phase 3: Establishment of GIS and zoning capacity

Activity 3.5. Action Plan for introducing the GIS based OIE compliant zoning strategy

CAIQ will define an action plan which specifies the types of actions to be implemented against a timeline to develop a zone according to the OIE Zoning principle.

Phase 3: Establishment of GIS and zoning capacity

Activity 3.6. **Final workshop** and press conference

Workshop will be organised with the aims of presenting the activities implemented by CAIQ during the project and also giving the opportunity to present and review the GIS solutions applied to zoning and analysis of epidemics to other OIE members in the region.

Phase 3: Establishment of GIS and zoning capacity

Activity 3.8. Post-project review

12 month after the ending of the cooperation project a review process will take place. The review will consider:

- Evaluation of the outcomes produced by CAIQ in the context of GIS applied to the surveillance, control and zoning of Avian Influenza and other emerging avian diseases
- A simulation exercise to check the flow efficiency of the system developed by CAIQ.