



## MODULAR TRAINING

## Qualitative Risk Mapping Analysis optimization of monitoring systems on transboundary diseases

### Scientific coordinator:

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1 to 2 weeks in France, Montpellier



Delivered in French or in English

In order to optimize risk-based surveillance of animal diseases, a method developed by CIRAD integrates a risk mapping approach linked to animal mobility and risk assessment.

The principal objective of this training program is to reinforce national capacities and to assist the vet services or animal health actors of specific countries to prevent the introduction and the spread of diseases in the field and to detect new outbreaks with risk-based surveillance systems. This method can be applied to zoonotic diseases and used by public health experts. The aims of these training program are in particular to acquire gradually tools and methods to manipulate animal flows information and identify the risks associated with them. The training will deal with data collection, processing of technical and statistical analysis, handling geospatial information and cartographic visualization and finally risk mapping and risk-based surveillance.

Veterinaries and health workers learn different tools for handling animal flows information and methods to estimate the highest risk factors (movements, periods, regions...). Finally, they are able to produce risk maps for targeted diseases such as Highly Pathogen avian Influenza, Rift Valley Fever, Foot-and-mouth disease, Peste des petits ruminants.

**The 1st session** (5 days) will cover data collection (protocols design and data collection on tablet), processing of technical and statistical analysis (specifically on animal mobility), handling geospatial information and cartographic visualization (GIS tools).

**The 2nd session** (5 days) will be devoted to risk mapping, spatial risk assessment, spatial MCDA and risk-based surveillance methods, related to national context.



### Educational objectives

**At the end of the 1st training week,** participants will be able to:

- Master all basic functions of QGIS software for handling geospatial information and creating maps;
- Collect, visualize and analyze animal (or human) movements

**At the end of the 2nd training week,** participants will be able to:

- Use Spatial MCDA
- Assess risk of a disease, analyse and map it (risk assessment);
- Finally design risk based surveillance protocols according to a specific country context and national monitoring system.



### Admission

To attend the course, the candidate must

**Week 1:** Hold a diploma in veterinary medicine or public health, or hold a degree in agronomy, a master's degree compatible with the subject of the course, a diploma in agricultural or medicine work engineering, or equivalent. This course may be taken by candidates not belonging to these categories, but justifying sufficient professional experience.

Candidates must be proficient in English and have basic computer skills (knowledge of the Windows environment) as well as in the basic QGIS functions (recommended)

**Week 2:** be present during the 1<sup>st</sup> week or know the basic use of QGIS and SNA (Social Network Analysis).

# Qualitative Risk Mapping Analysis

## optimization of monitoring systems on transboundary diseases



### Program

#### Week 1: Tools initiation

- Concepts QGIS (Introduction and overview of QGIS functions)
- Data collection (protocols design and data collection on tablet)
- Handling animal movements information (Social Network Analysis (SNA))

#### Week 2: Risk mapping and surveillance protocols

- Spatial MCDA
- Qualitative risk analysis (introduction, exposure and hazard occurring assessments and mapping)
- Risk-based protocols (design surveillance systems according to a specific country context and national monitoring system)

### Material provided

- PowerPoint presentations, computers. All softwares are free and will be pre-installed.
- It is essential for the second week, that the participants bring their own datasets on the animals movements (national or/and transboundary) and y any information (list of municipalities, water points, markets and epidemiological data (outbreaks, vaccination coverage linked to a priority disease)).

If participants can't provide their own information on animal movements, examples with virtual data will be taken.



### Training costs

Training costs : €1,500 per week or €2,800 for 2 weeks  
Travel towards Montpellier : not included, to be covered by participants  
Housing expenses : not included, plan a minimum of €120 a day  
If necessary, a customized quote can be established upon request.



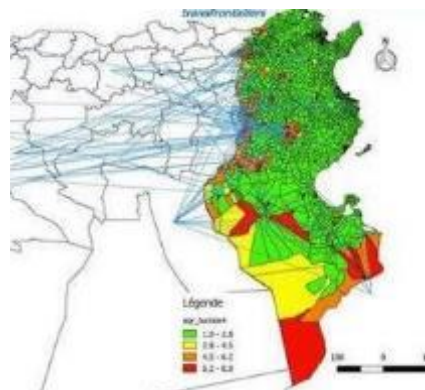
### Application procedure

Applications, consisting of a detailed resume, a motivation letter and details about the organization managing your grant

by email to : [prisme.formation@cirad.fr](mailto:prisme.formation@cirad.fr) and [cecile.squarzonidiaw@cirad.fr](mailto:cecile.squarzonidiaw@cirad.fr)



CIRAD cannot provide study grants. If you wish to request a grant, submit an application as soon as possible to national authorities in charge of livestock and/or scholarships; Cooperation and Cultural Action Services (SCAC) of your local French Embassy; the embassies of other countries; international organizations (FAO, UNDP, EU, IAEA, IDB ...); development projects or NGOs.



CIRAD is an WOAHA collaborating centre for the diagnosis and control of animal diseases in tropical areas. The organization of training courses in this field is part of its mandate.

