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## **Surveillance in Corsica Island : a Mediterranean Lab**

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## SOCIO-ECOSYSTEM

### Corsican context

For centuries, agricultural production in Corsica was located in the central part of the island (mountainous area). During the twentieth century, a massive rural exodus led to the gradual abandonment of agricultural activities and provided conditions conducive to the development of an extensive type of farming on abandoned land.

The national park of Corsica is covering almost half of the surface of the island and is home to two endangered subspecies of hoofed mammals, the mouflon (*Ovis aries musimon*) and Corsican red deer (*Cervus elaphus corsicanus*). There is as well a large population of wild boar all over the territory.

Breeding areas are located in the mountainous areas and in the western part of the island. The livestock population is estimated at 74,000 cattle, 152,585 sheep and 46,940 goats (source: INSEE 2013). The total pig population is estimated at 58,855 heads.

Their husbandry practices are specific to Corsica, with feral and free-range systems and 90% of farmers producing their own meat.

**These unique conditions could make Corsican environment suitable for the emergence of new pathogens.**

### Emergence of pathogens

#### Bluetongue (BT)

- 2000: emergence of BT virus (BTV-2), transmitted by *Culicoides imicola*, probably due to global warming.
- 2003: "rapid risk assessment" resulted in the use of sentinel goats to detect new BT serotypes (BTV-4) → first models for BT prediction on Mainland France (and Europe) built up and validated with initial data from Corsica.
- 2004: emergence of BTV-16
- 2013: emergence of BTV-1
- Corsica still at risk for the introduction of new BTV serotypes

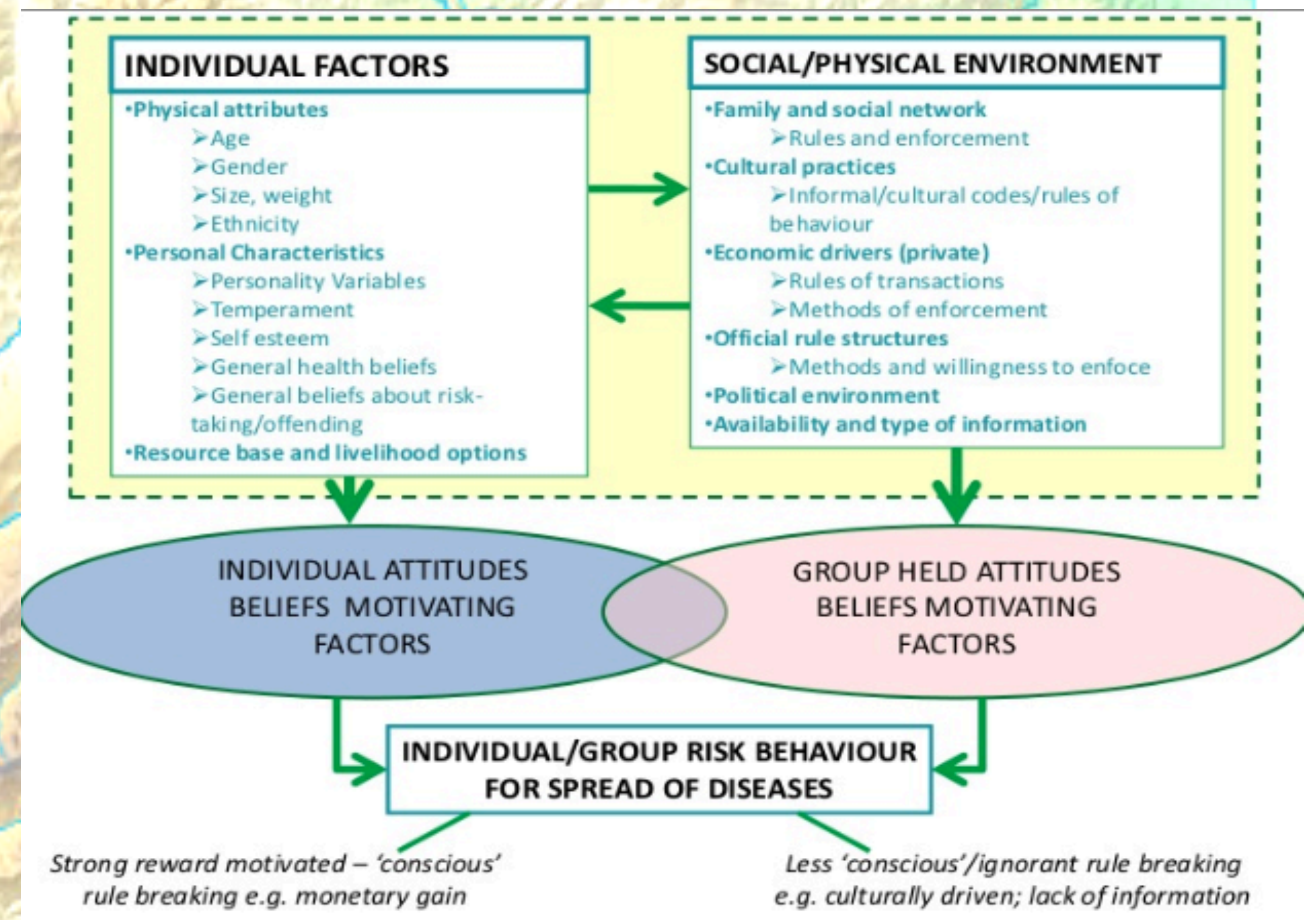
#### African Swine Fever (ASF)

- Possible introduction and maintenance from neighbouring Sardinia, where the disease is endemic.
- Development of a risk assessment framework taking into account (i) livestock and wildlife population density, (ii) spatiotemporal patterns of contacts between domestic and wild compartments and (iii) socio-cultural practices → inform risk-based surveillance on swine diseases.

#### Rift Valley Fever (RVF)

- Considered as a threat for Europe (and Corsica) due to animal movements and existing competent vectors.
- Further work based on a "One Health" approach should be conducted → estimate the risk of introduction, the potential consequences for public health and possible risk mitigation strategies (including surveillance).

## RISKS



Rushton J. et al. - RVC, FAO, UA-IBAR, UE

### Possible actions to undertake

**New approaches in risk communication and risk management (based on social sciences methods):**

- Involvement of farmers, hunters associations, official authorities and medical sector in the process of decision-making and to achieve multi-sectorial management.

### Development of participatory approaches:

- Understand farmers' motivations to report or not health events.
- Understand local preference in risk reduction measures.

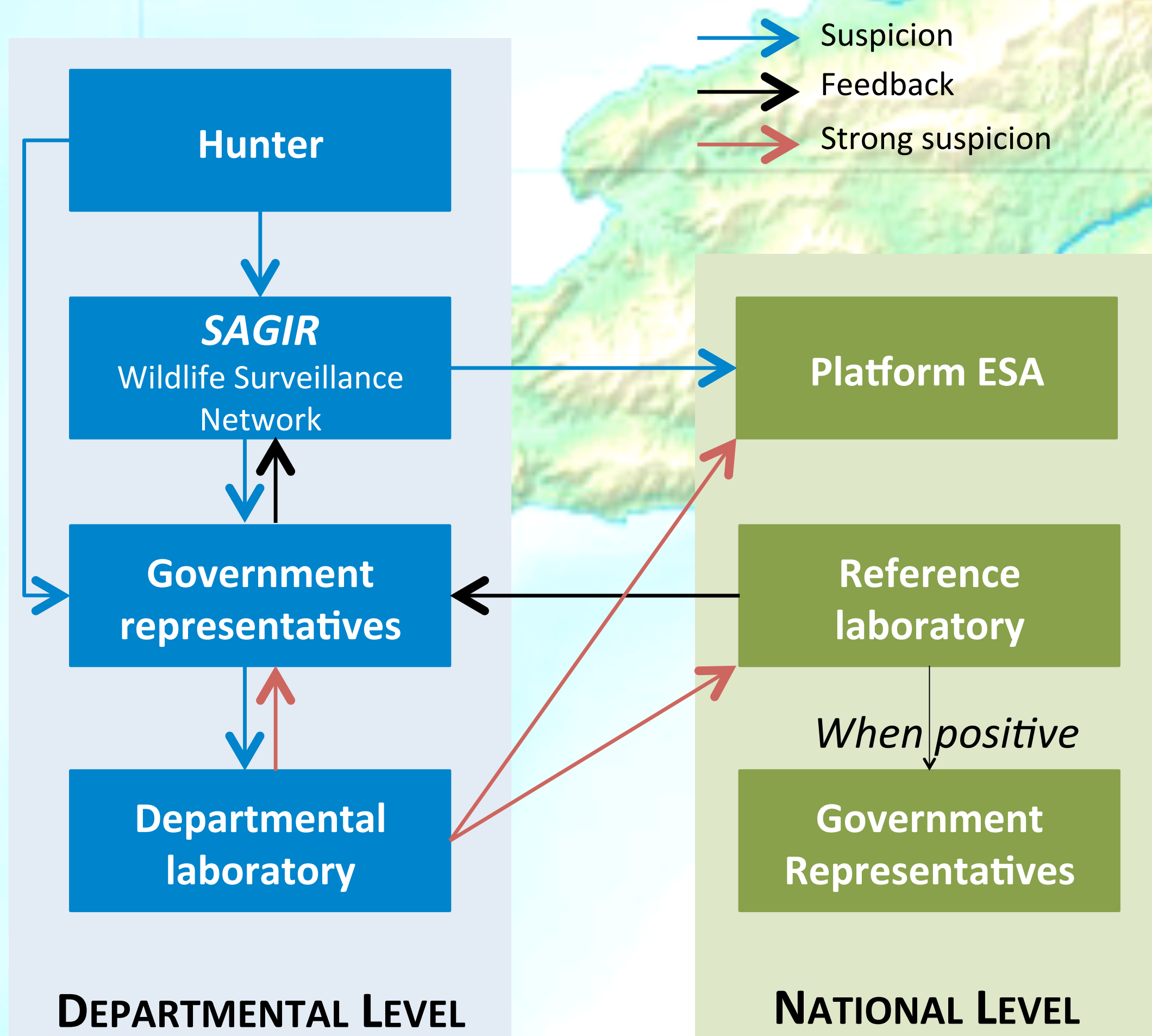
### Health surveillance in Corsica:

- Protection of the indigenous breeds and wildlife.
- Prioritization of diseases for risk-based surveillance.
- Establishment of targeted entomological and cattle surveillances in selected areas.
- Integration of surveillance of birds, mosquitoes and humans.
- Collaboration among Italian and French scientists and official services: coordination of risk analysis activities between Corsica and Sardinia to better define the surveillance protocols to be carried out (new BT virus serotypes, ASF virus, etc.).

New surveillance efforts on both domestic and wild compartments were recently decided by the official French veterinary services, with the development of new surveillance systems in Corsica (e.g. ASF)

**Corsica could be an efficient sentinel plot for monitoring the emergence of exotic diseases in occidental part of Mediterranean Sea**

Figure 1: Schematic representation of the reporting system of passive wildlife surveillance in Corsica



## SURVEILLANCE

