

# Food sovereignty and emerging diseases

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## Objectives

- Understand and relate two concepts as food sovereignty and emerging diseases.
- Learn and explain how the economic system can affect the human health with his relation with the environment.
- Show the significance of the ecosystem in the human health

## Emerging diseases:

An emerging disease is one that has appeared in a population for the first time, or that may have existed previously but is rapidly increasing in incidence or geographic range.

## Food Sovereignty:

Is the right of peoples to healthy and culturally appropriate food produced through ecologically sound and sustainable methods, and their right to define their own food and agriculture systems..

## What is the relation between food sovereignty and these causes of the outbreak of emerging diseases?

**Alteration of the forestall habitat:** The restructuring of the land for high production agriculture causes in many cases the deforestation of vast selvatic zones.

**Agricultural intensification:** In these zones of high production, monoculture techniques are performed. These agriculture practice need destroy biodiversity and at the same time common practices. Monoculture is used on those crops and that reduces biodiversity and high distribution infrastructures are generated fragmenting the forest at the same time. The use of new vegetal species such palm oil provoke changes on the ecosystem and in original species distribution.

**Urbanization:** There is generated a personal demand that spikes in population migrations and an increasing of land demography, at the same time disease outbreaks rise due to proximity with jungle and animal disease reservoirs.

The relation is in the possible causes of the outbreak of emerging diseases

Changes in regional environment caused by growth of population, consumption and technology

Urbanization



Alteration of forestall habitat



Agricultural intensification



Emerging disease

Alteration between hosts and pathogen

- More opportunities for the pathogen to change their host
- Amplification of transmission and increased evolutionary capacity of the pathogen

Alteration in natural community

- "Domestication" reservoirs and increased of the contact with population
- Domestic animals invade natural habitat

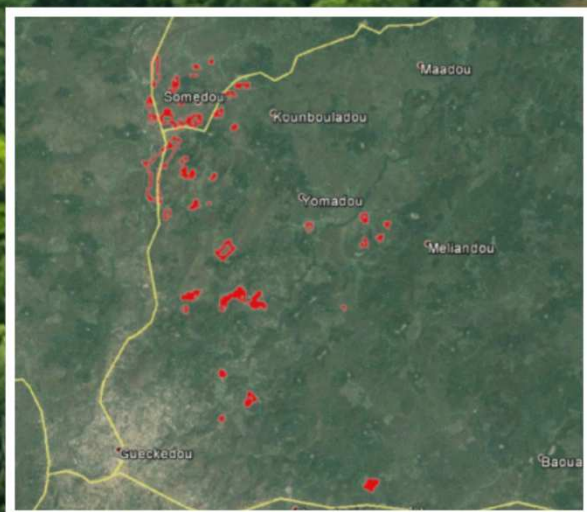


Figure 1. Land-use pattern in West African Ebola's putative area of origin near Guéckédou, Guinea. The characteristic landscape is a mosaic of villages surrounded by dense vegetation and interspersed by crop fields of oil palm (red) and patches of open forest and regenerated young forest. (Kock, 2014)

## An example, the case of Ebola

The case of Ebola's epidemic could be an example of that.

On one hand we have bats as a natural reservoir of Ebola, and on the other hand a change in the ecosystem produced by the intensification of palm oil agriculture, inducing an increase of population.

In the north of Guéckédou, Guinea (figure 1) big changes on the area have been done, destroying and breaking the forest as palm oil monocultures were implemented. Therefore, bat populations became more condensed in wooded areas which have not been destroyed and, at the same time, they increased their contact with humans for two main reasons: the attraction of the animals by palm oil and the upraise of human incursions into the rainforest to hunt.

This amplification of transmission and increased evolutionary capacity of the virus jointly with the growth of population could be probably the cause of the epidemic in 2013.

## Conclusions

- The infectious diseases are closely bind to the ecosystems
- Some activities finish with the food sovereignty of the people, causing instability, poverty and migrations.
- It is necessary to understand health as an union between humans, animals and environment, because the changes in the environment can unsettle the public health.