

# INTEGRATING GEO-REFERENCED DATA FROM DIFFERENT SOURCES: LIVESTOCK SURVEYS AND ADMINISTRATIVE DATA

31 - Administrative Data: Topic Oriented

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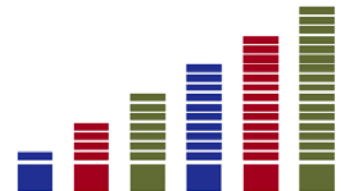
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## Summary

- Introduction
- Geographic Information System as a tool of data integration
- Goals and analysis
- Maps
- Future perspective and conclusion



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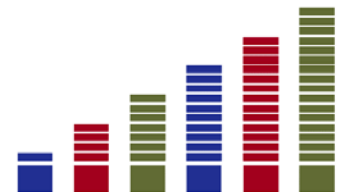
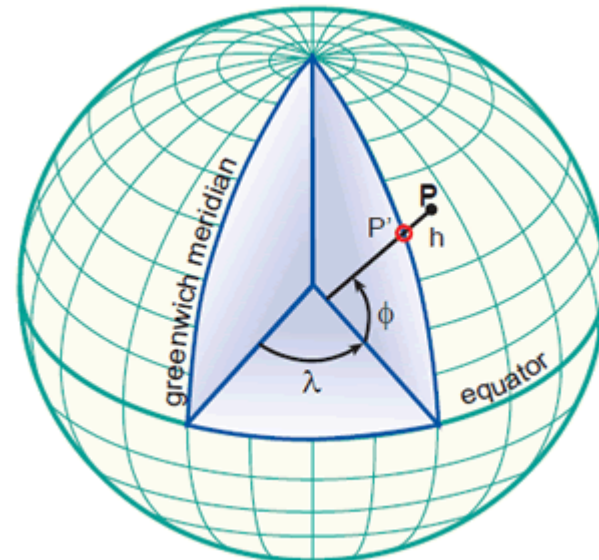
The statistical data collection is often based on combined information from different sources, both to increase the knowledge and to ensure higher quality of statistical data



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Geo-referencing requires to acquire the accurate coordinates of the statistical variable object of study (latitude; longitude)

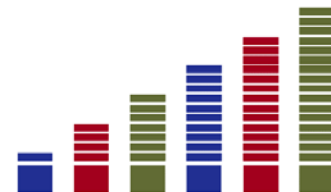
Base for Geographical Information System (GIS)



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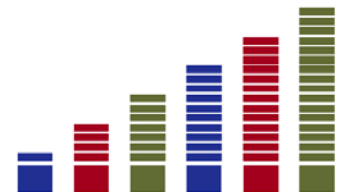
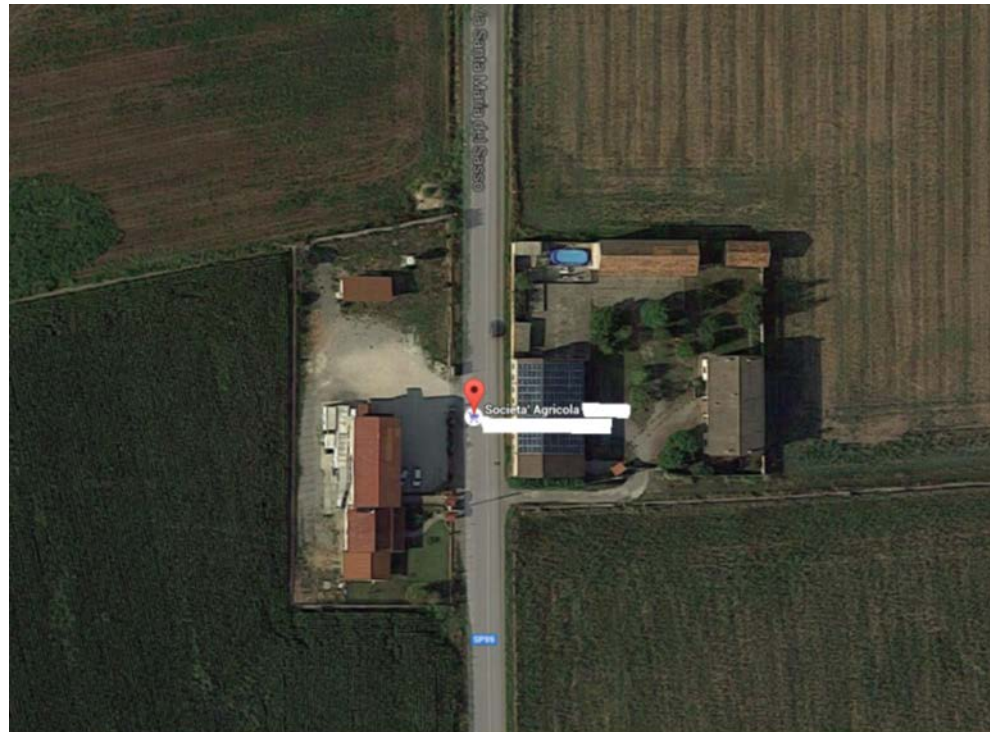
Agricultural holding can be identified as:

- technical economic unit (identify by VAT or lat./long.)



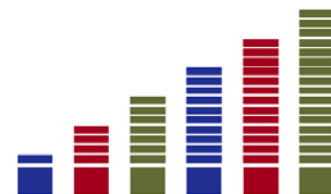
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- a geographical location (identify by unique farm code or lat./long.)

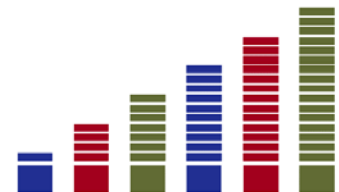
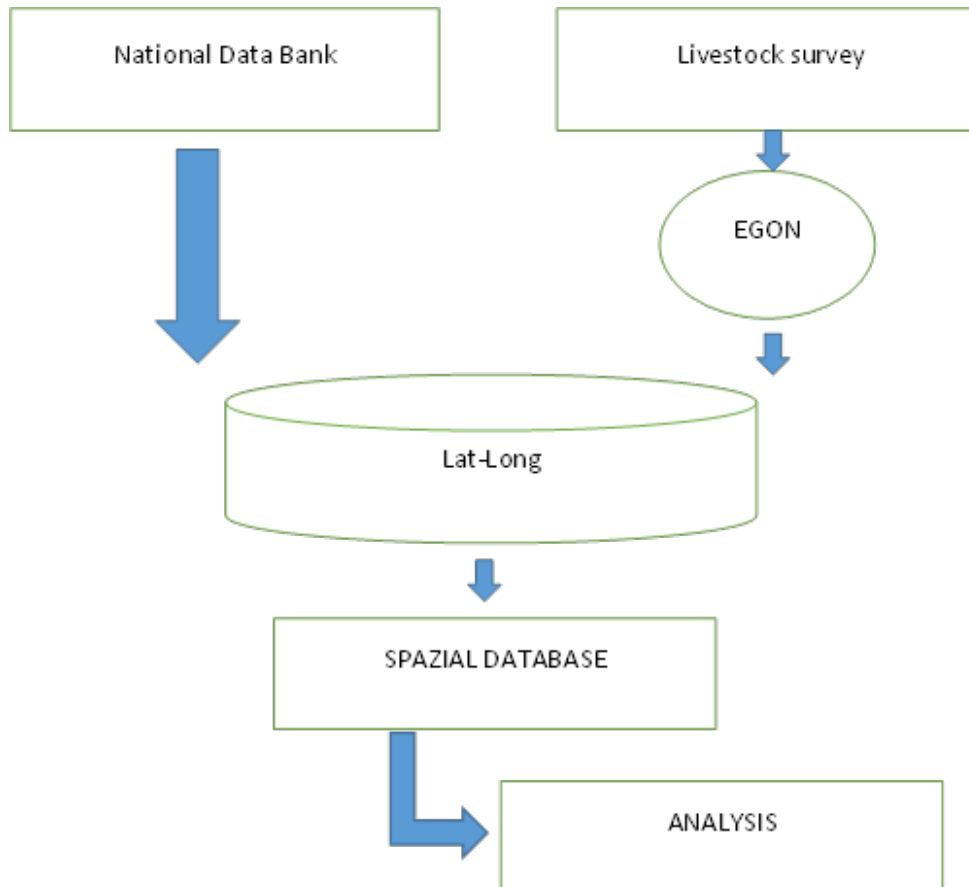


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The goal is to use as linking key geographic coordinates instead of VAT number, which is normally used in record linkage practices. The administrative source used comes from the Ministry of Health (National Data Bank) and the Italian statistics on livestock (Reg. CE 1165/2008). In the analysis we have compared, as example of small area estimation, farms in the provinces of Campania who own or have even temporarily buffalo heads.



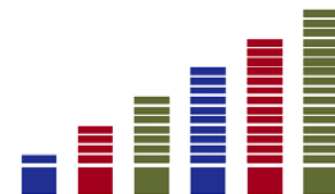
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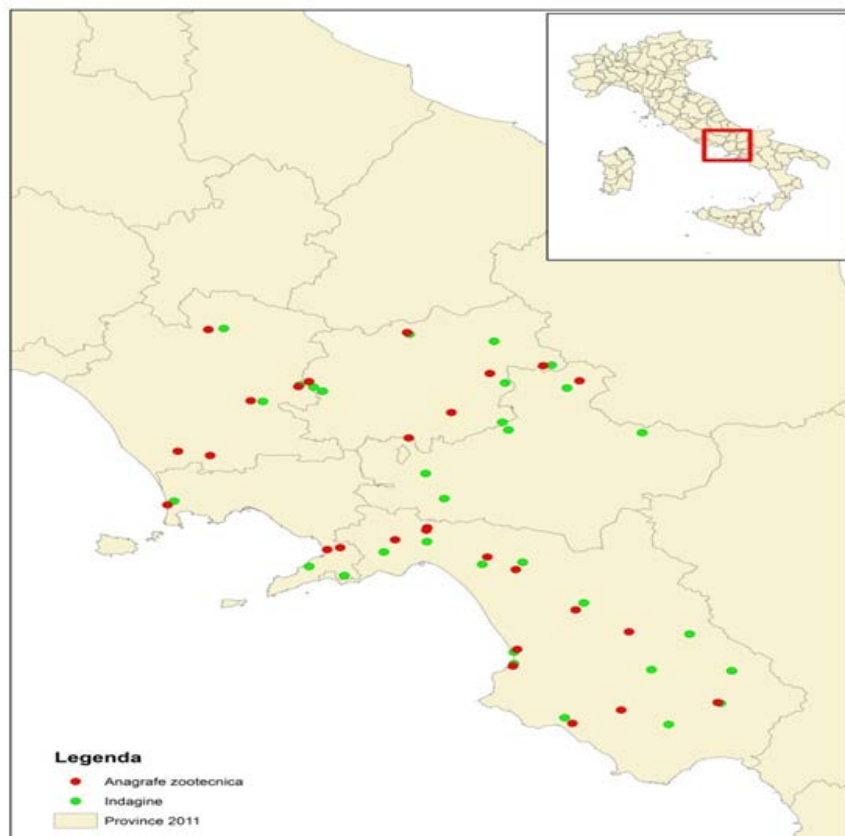
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The case study concerns the Italian Campania Region, which has been affected by a dangerous land contamination process due to not legal use of large parts of the territory as garbage dump. The regional territory concerned has been called “Terra dei Fuochi” (“Fire Land”, since garbage is fired and drawn into large holes)

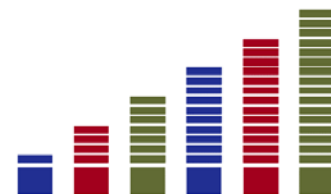


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Agricultural holdings localization - Livestock survey (green) and National Data Bank (red)

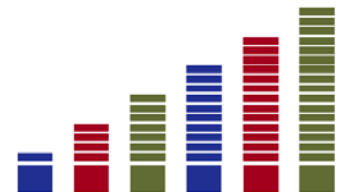


Red points have been obtained on the basis of green coordinates. Any red point may have been coupled with more than one green point (for this reason there are more red points than green ones). The best situation consists in having only red points, which overlap exactly the correspondent green ones. In practice, green points on the map represent geo-localization of agricultural holdings as derived from the Livestock survey, while red points show position of holdings as derived from the BDN which are nearest to a given survey holding



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Even though only a few number of holdings with livestock falls into the circle which identifies the “Terra dei Fuochi”, other holdings not included in the livestock survey may fall inside that; in any case, errors occurred in the geo-referencing phase may lead to misleading conclusions as regards the dangerousness of this phenomenon



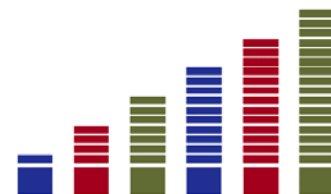
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## Future perspective and conclusion

First results are promising and will imply further work regarding different issues. First of all, it would be useful to map additional reference points, as environmental areas, health, wholesale markets, manufacturing industries, in order to have a broader view of the role played by territory on the agri-food chain.

More in details, since the “Terra dei fuochi” is a part of the Italian territory particularly at risk as regards human health, it will be useful to evaluate the potential increase of health diseases due to pathologies connected to cow milk consumption. This evaluation may take into account the physical distance between each holding having livestock and specific dangerous location, which may have been contaminated by toxic garbage and other kinds of land pollution.

The analysis of geo-referenced data brings with it several problems. The survey carried out shows the need to put attention to the geo-referenced data in the collection phase. The coordination and integration of data from different sources is needed, as well as sharing of data gathered at different levels, making them more easily available, accessible, analyzed and interpreted by the researchers through issues that might not otherwise be assessed. This task is particularly relevant in the frame of “official statistics”, where the territory should be seen as a place of interaction of a number of activities



THANK YOU FOR  
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