

Importance of post-vaccination sero-surveillance for evaluating efficacy of vaccination programs against endemic diseases of livestock in developing countries

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Background

Poor coordination and monitoring of livestock vaccination programs are a major constraint to disease control in Mali.

Objective

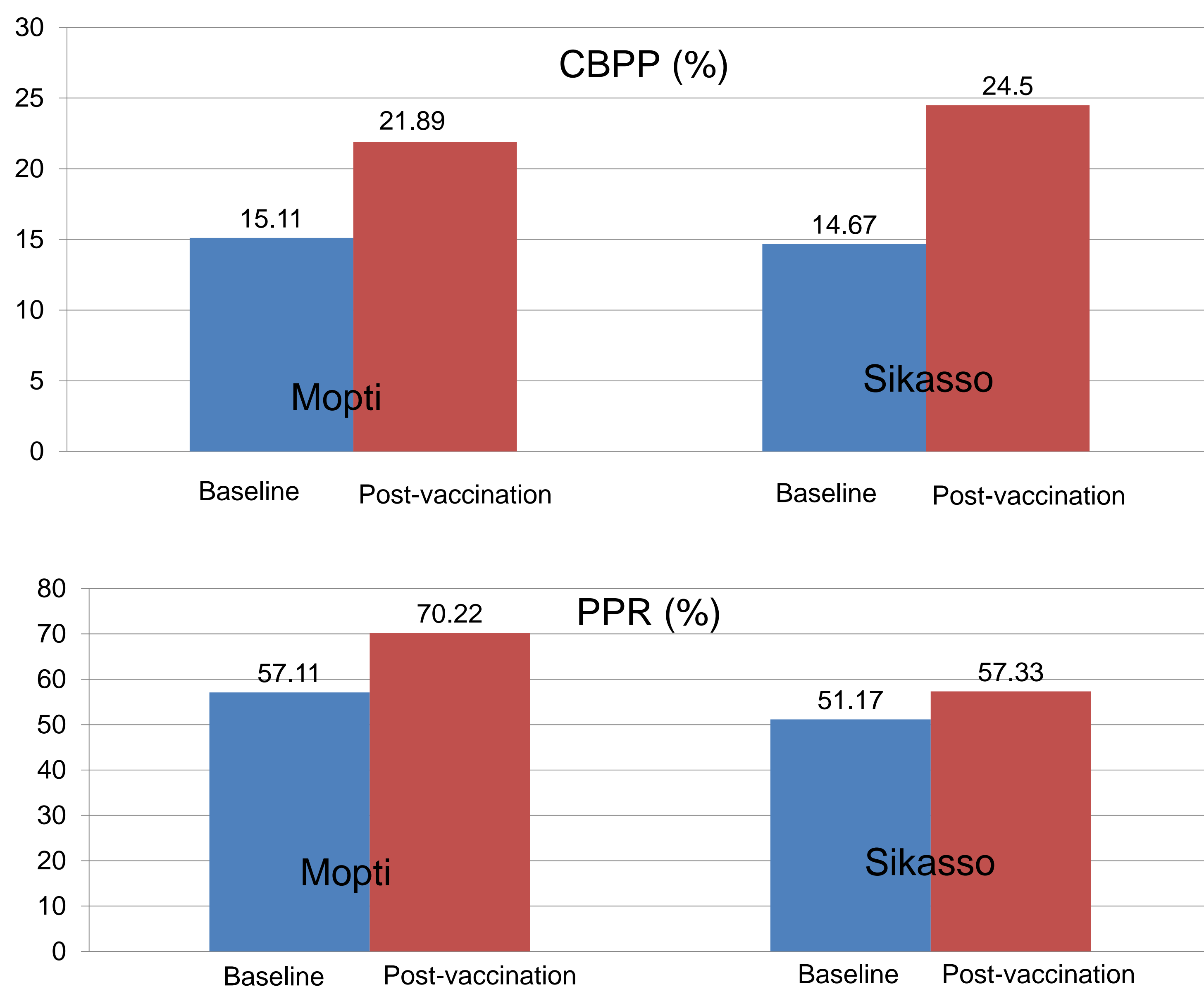
The aim of the study was to assess efficacy of current vaccination programs.

Methods

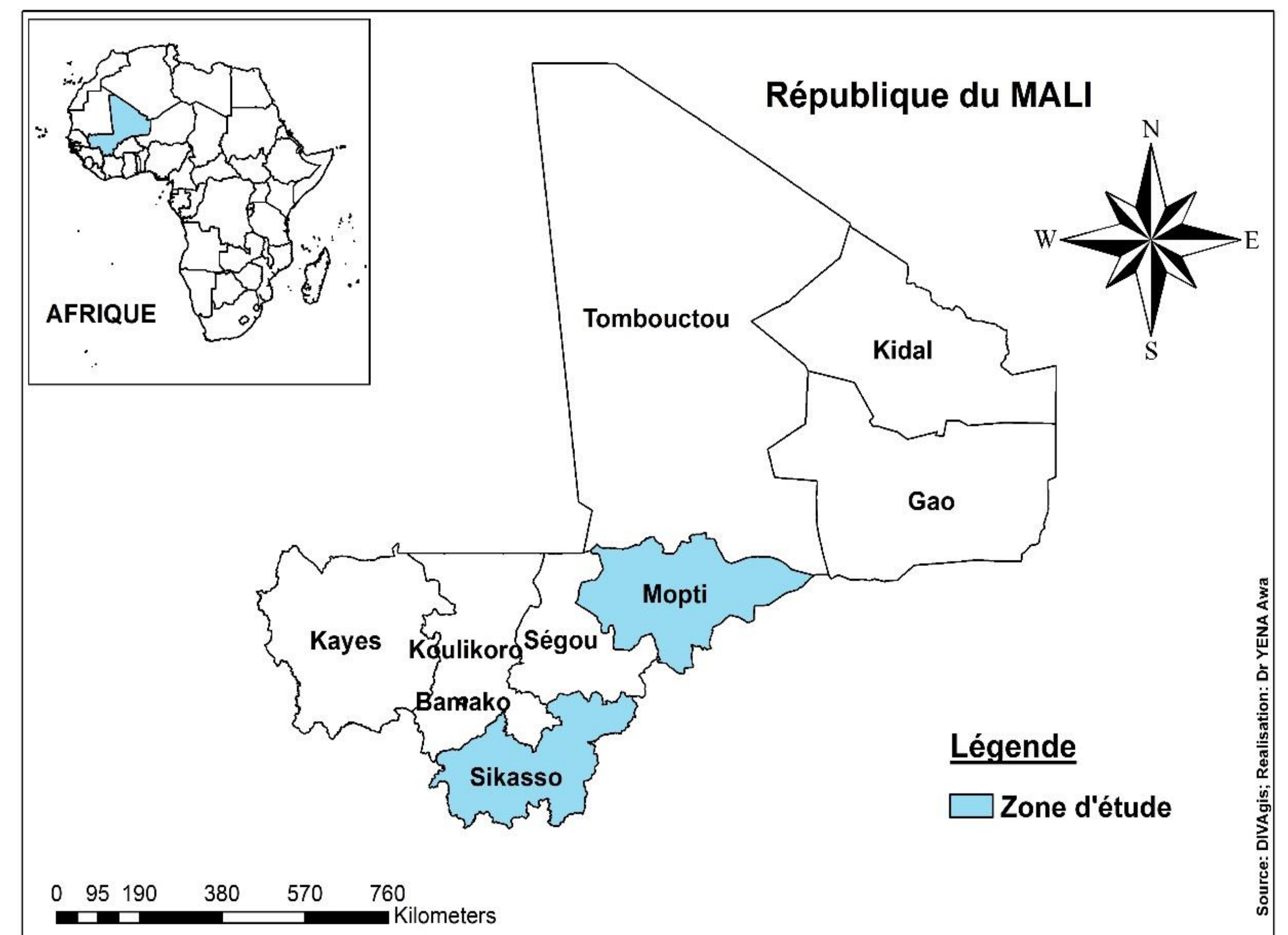
We evaluated the routine annual vaccination programs implemented by the Government of Mali against Contagious Bovine Pleuropneumonia (CBPP) in cattle and Peste des Petits Ruminants (PPR) in small ruminants in selected communes of Mopti and Sikasso regions in 2016. Serum samples were collected before and after vaccination from randomly selected 1500 cattle and 1500 small ruminants. C-ELISA was used to measure the level of sero-conversion of animals following vaccination.

Results

Limited increase in herd immunity after vaccination was observed for both diseases:



Vaccination of cattle by an animal health worker in Sikasso region



Map of Mali with study areas



Vaccination of small ruminants by a private veterinarian in Sikasso region

Conclusions

To achieve herd immunity for both diseases, an estimated vaccination coverage of 80% is necessary. Herd immunity cannot be achieved with the current vaccination strategies. Post vaccination sero-monitoring is a useful tool to assess performance of vaccination campaigns

Recommendations

To improve vaccination programs, there is need for participation of all stakeholders, and close engagement of government agents with actors such as private veterinarians to ensure that their investment in vaccination campaigns results in the expected returns, p.e. having effective protection against target diseases.

The 15th International Symposium of Veterinary Epidemiology and Economics, 12-16th November 2018, Chiang Mai, Thailand.

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RESEARCH PROGRAM ON Livestock



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