

# Animal Husbandry as a Strategy for Income Diversification of Small Vanilla Producers in the Sava Region of Madagascar



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## Introduction

- The Sava region in North-Eastern Madagascar is the most important vanilla-producing region in the world
- Recent strong fluctuations in vanilla prices make vanilla production very risky
- Livestock ownership, management and marketing of rural smallholders (Fig. 1) was studied as a potential income diversification strategy to balance risks of vanilla production



Figure 1: Farmer with his zebu cattle

## Material & Methods

- Interviews with 1,800 and 300 households (HHs) in 60 and 30 villages (Fig. 2) from May to August 2017 regarding stock sizes and number of animal species kept in the districts of Sambava, Antalaha, Vohémar and Andapa
- Correlation analysis of vanilla production and animal husbandry (Pearson correlation, 1,800 HHs)
- Analysis of regional differences of stock sizes and presence of key species in the 4 districts (Kruskal-Wallis test, 1,800 HHs)
- Collection of data on animals' financial values (300 HHs)

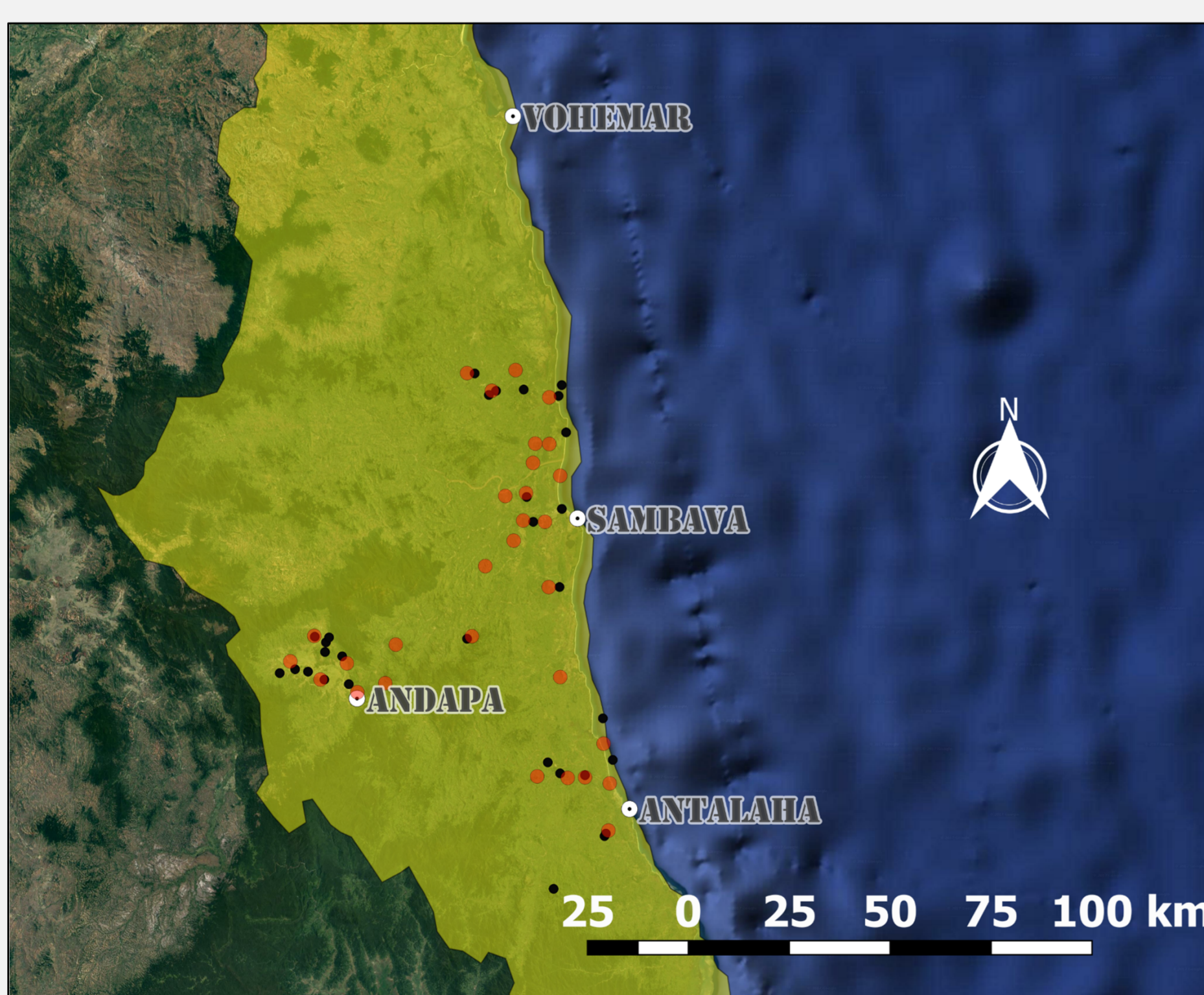


Figure 2: Location of focus villages in the Sava region

## Highlights

- More than 80% of households in the Sava region combine vanilla and livestock production
- Zebu cattle bind highest capital, equivalent to 18% of average annual income of a household producing vanilla



Figure 3: Transport of zebu meat to local market

## Results I

- 84% of HHs grow vanilla (Fig. 3) and 83% keep animals ( $r=0.356$ ,  $p<0.01$ ), 42% keep zebu cattle (no correlation), 13% keep pork (no correlation), 72% keep chicken ( $r=0.324$ ,  $p<0.05$ ) and 22% ducks ( $r=0.331$ ,  $p<0.01$ )
- Regional differences only for vanilla production (number of producers) between the districts of Sambava and Andapa ( $H(3)=12.34$ ;  $p<0.05$ ) and for pork-keeping between Andapa and Antalaha ( $H(3)=10.37$ ;  $p<0.05$ )

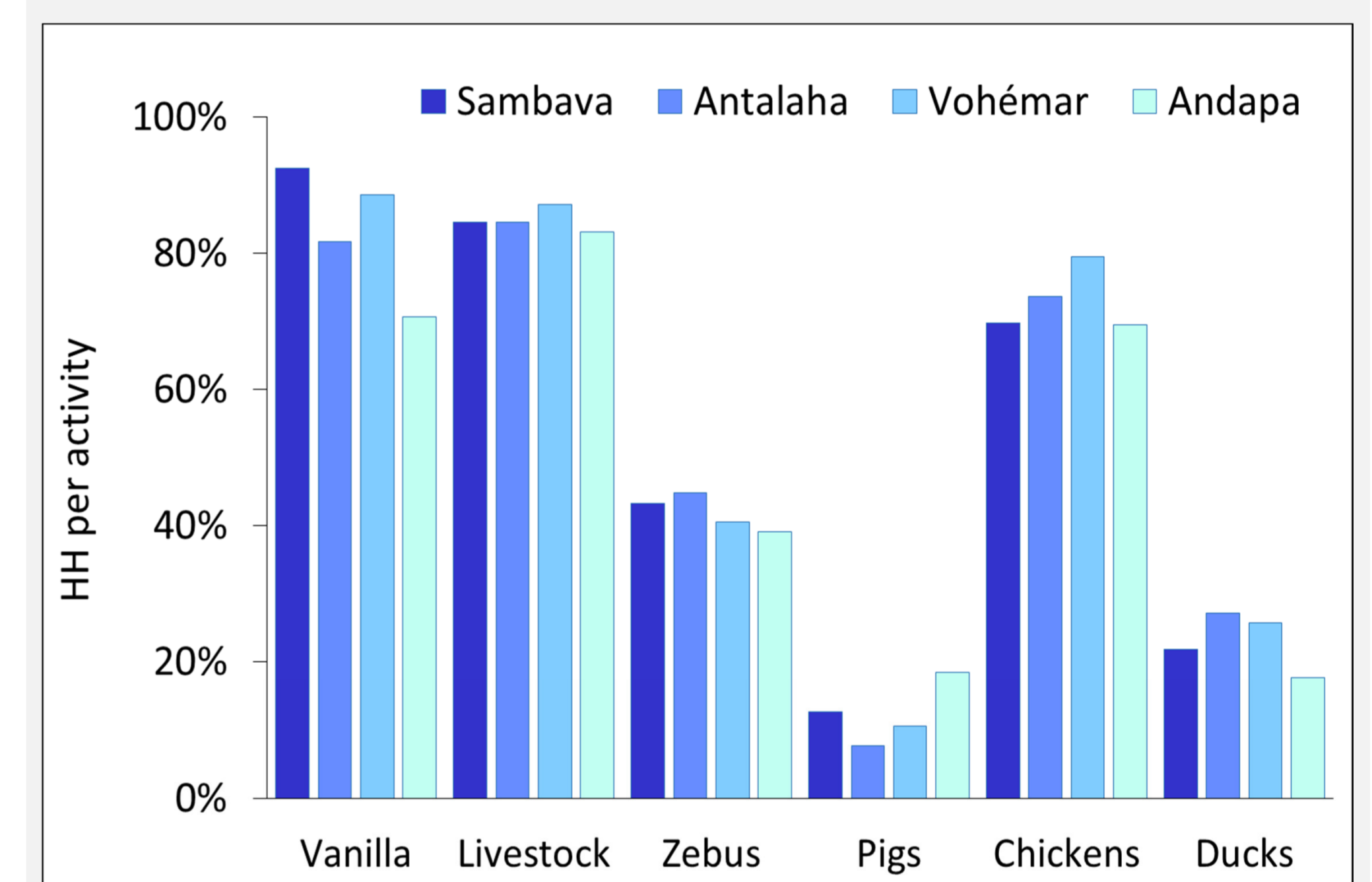


Figure 4: Share of households (HH) involved in various farming activities across the studied districts

## Results II

- Average capital bound in a zebu: 346€ (median stock size: 3.5 zebus)
- Average capital bound in a pig: 85€ (median stock size: 2 pigs)
- Average capital bound in a chicken: 5.30€ (median stock size: 22 chickens)
- Average capital bound in a duck: 7.50€ (median stock size: 5.5 ducks)

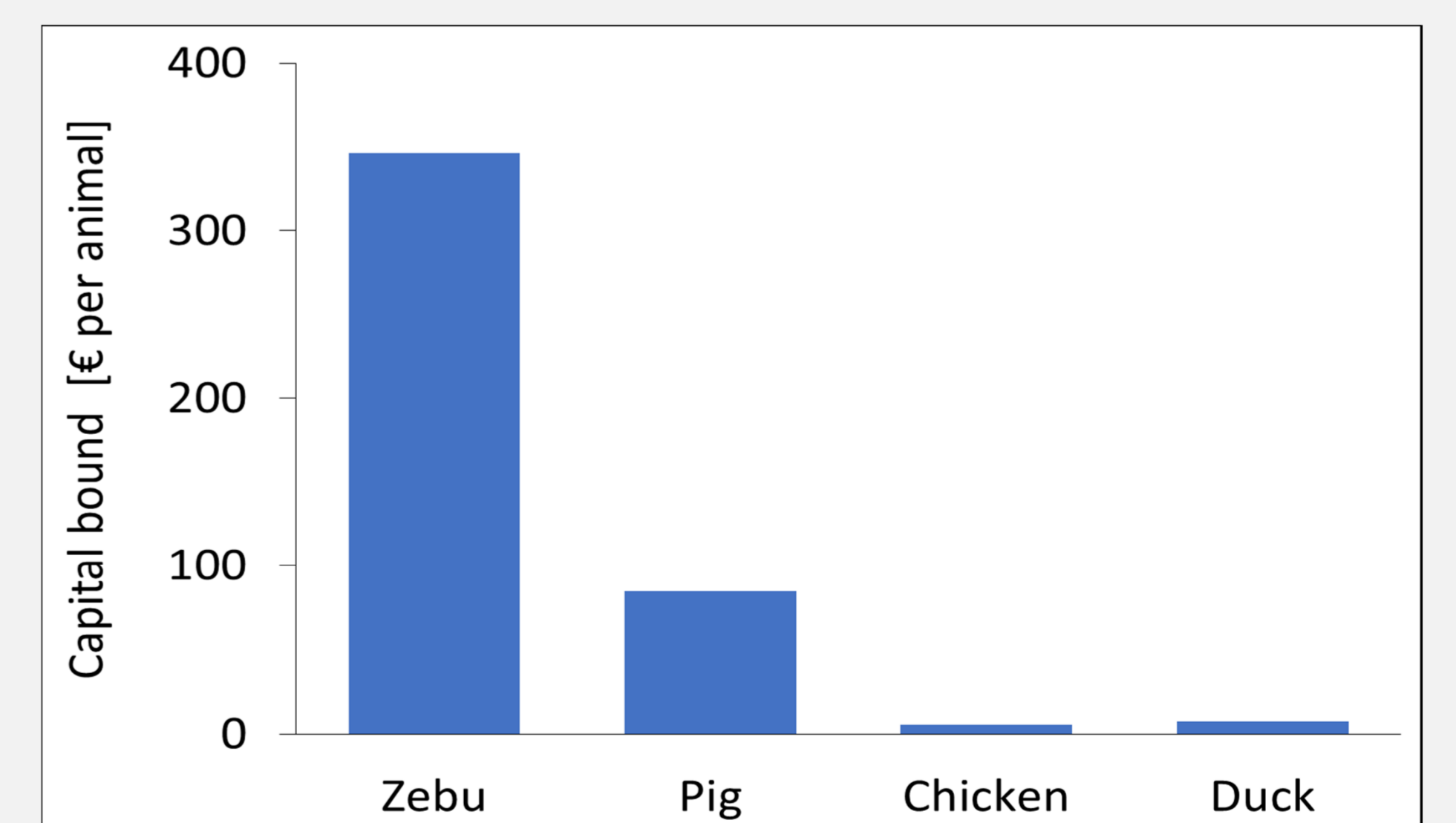


Figure 5: Prices realized for sold animals