

Market access and child nutrition in rural Cambodia

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INTRODUCTION

- Food markets provide 50% of fresh food for rural families in Cambodia
- Access to food markets may play a role in child dietary quality and height
- Different socioeconomic groups may benefit differently from access to food markets

OBJECTIVE

Assess the relationships between market access, household wealth and nutrition in children aged 6 to 23 months of age in rural Cambodia

- Hypothesis 1:** Better access to market is associated with better child dietary diversity score and height-for-age z-score
- Hypothesis 2:** The magnitude of associations is stronger among wealthier households.

RESULTS

- Food markets in Cambodia concentrated in low-land regions where population density is high but was sparsely distributed in plateau regions where population density is low (Figure 1).
- Distance to nearest market was associated with better dietary diversity score (β : -0.16; 95% CI: -0.28, -0.05; $n = 1537$) but was not related to height-for-age z-score (β : 0.00; 95% CI: -0.12, 0.11; $n = 989$).
- The association between market proximity and dietary diversity was strongest for children residing in the wealthiest households (Figure 2).
- Market proximity is associated with the inclusion of land meat and non-vitamin A fruits and vegetables in children's diverse diet, but not related to other food groups

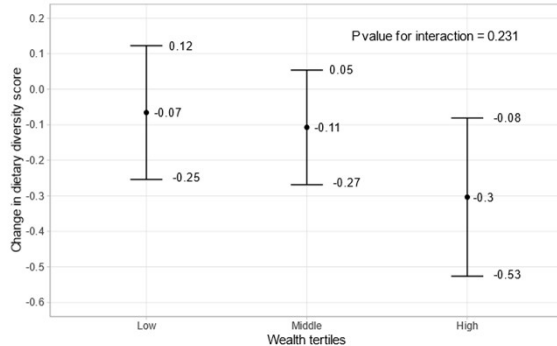


Figure 2: Changes in dietary diversity score associated with a unit of natural-log distance to market at each wealth tertile. Error bars are 95% CIs of the marginal trends obtained from post-hoc estimation of the adjusted linear regressions. The overall P-value was obtained from Type 3 test.

METHOD

- A census of 503 meat-selling markets was obtained and 485 markets were geocoded (Figure 3)
- Child and household data ($n = 1538$) came from Cambodia Demographic and Health Survey 2015 (CDHS)
- Straight-line distance from household to the nearest food market was calculated using regression calibration approach to account for random displacement of household clusters in CDHS
- Linear regression was used to assess the associations of distance to nearest market with child dietary diversity score or child height-for-age Z-score
- Post-hoc estimations was conducted to assess the effect modifications of wealth

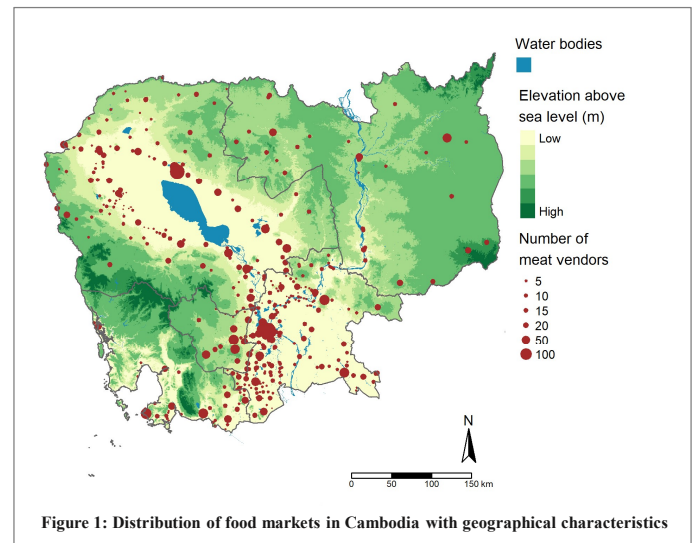


Figure 1: Distribution of food markets in Cambodia with geographical characteristics

CONCLUSION

- Proximity to food market is important for the inclusion of some but not all food groups in child diet.
- The gain in dietary diversity associated with better proximity to market seems to benefit wealthiest children more than children from lower wealth households.
- Children from lower wealth household might benefit better from programs that emphasize diversifying food access to buffer the impact of food system's fluctuations.

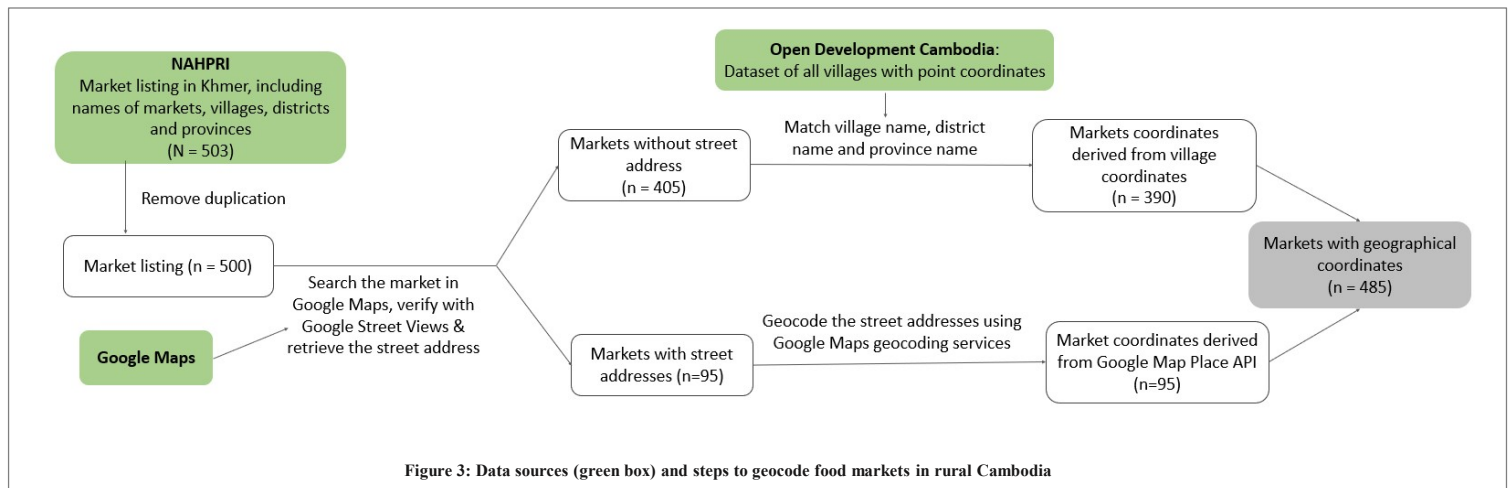


Figure 3: Data sources (green box) and steps to geocode food markets in rural Cambodia

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