Livestock manure management and use by smallholder farmers
An assessment in Battambang province in Cambodia

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Introduction

The agricultural land in Cambodia is characterized by sandy soils, which are low in nutrients and organic matter. The poor condition of the Cambodian soils presents a serious threat for the agricultural production. One possibility to increase the organic matter content of the soil and improve the soil fertility is provided by the application of livestock manure. However, inappropriate handling of manure can lead to environmental pollution and compromise human and animal health. As not much is known about the manure management practices in Cambodia, the aim of the study is to generate basic knowledge about the farmers practices regarding farmyard manure management.

The research is embedded in the Innovation for Sustainable Agriculture (ISA) project, coordinated by Swisscontact Cambodia. It aims to reduce poverty of smallholder farmers, to increase soil health and food security.

Map of Cambodia. In red, field sites of the survey conducted between April and October 2021 (Source: LAOS News.net)

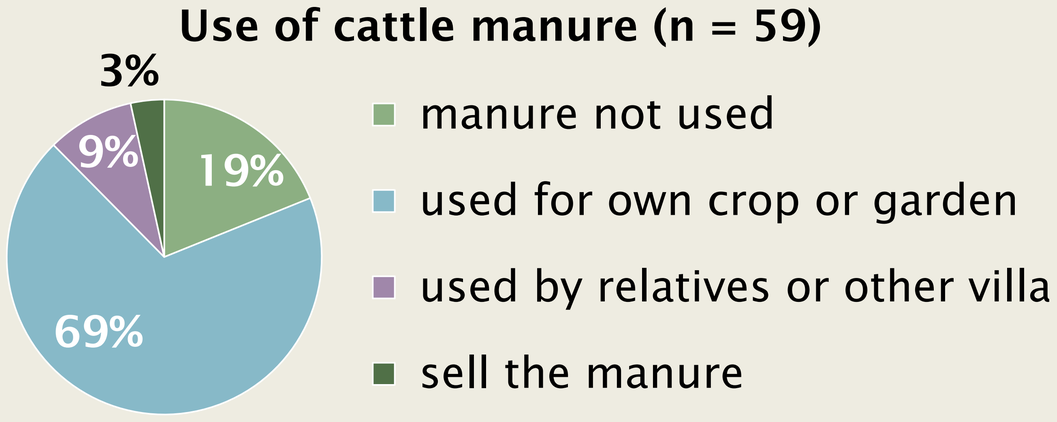
Material and Methods

- Literature review
- Direct observations
- Non-random purposive multistage sampling
- 68 semi-structured household and 7 key informant interviews

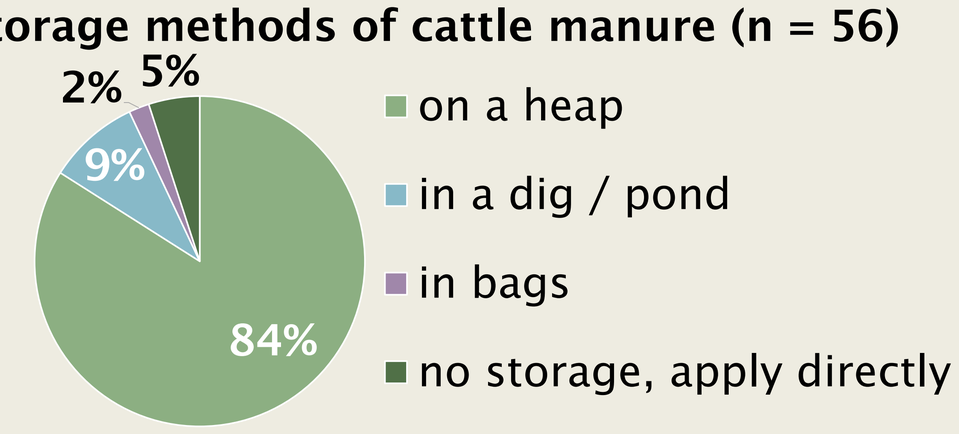
Main findings

- 89 % of the cattle raisers collect the manure
- Storage time: for 72% of households, the storage period is up to one year
- Processing: 11% of households burn and 9 % dry the cattle manure

Use of cattle manure (n = 59)



Storage methods of cattle manure (n = 56)



Reasons mentioned by the respondents…

… for using the manure:

- positive impact on soil fertility
- long term effect of nutrients on crop yields
- possibility to save money

… for **not** using the manure:

- high time and work intensity for collection and application
- transmission of weeds
- chemical fertilizer: higher yields & easier to apply
- chemical fertilizer is used when not enough manure is available

Storage site as seen on most farms: manure stored on a simple heap, without any protection against weathering (Photo: C. Keiser).

Conclusions

Storage and processing practices have potential for improvement. Protecting the storage sites from weathering with a simple roof could reduce the loss of nutrients. Furthermore, composting of manure would diminish its volume and ease its transport and application. Improving the present practices would solve some of the problems mentioned by the respondents for not using manure.

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