



From Food Safety to Climate Resilience? CamGAP-Certified Vegetable Value Chains in Battambang, Cambodia

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Introduction

- Cambodia's vegetable value chain (VC) remain informal, with smallholder farmers facing **unstable prices, limited bargaining power, weak quality differentiation, and growing food-safety concerns** (UNIDO 2022; Shrestha et al. 2021).
- Food-safety concerns and demand for safer vegetables create a rationale for quality assurance, traceability and certification (Kariuki 2014).
- **Cambodia Good Agricultural Practices (CamGAP)** provides a national certification framework for improving production and food-safety standards, but certification remains minimally used (GDA/MAFF 2019).

Research gap: Under what market and organisational conditions can CamGAP translate safer production into value-chain upgrading for smallholders?

Aim

This study examines how **CamGAP certification contributes to the upgrading of smallholder vegetable value chains in Battambang province**, with particular attention to:

- production and certification practices,
- market access and price incentives, and
- barriers to certification adoption and continued compliance

Methodology

- Empirical material was collected within the SmartAgri Cambodia project.
- 12 semi-structured interviews across the **whole VC**.
- Interview breakdown: **6 farmers, 2 middlemen/collectors, 4 retailers**.
- Participants selected both from CamGAP and non-CamGAP groups.
- Interview transcripts were coded and thematically analysed using **MAXQDA**.



Figures 1-6: Photos from qualitative data collection and observations

Results

1) TWO VALUE CHAIN PATHWAYS

Non-certified / conventional pathway

- Transactions are largely informal.
- Produce is bulked and sold with little grading, branding or traceability
- freshness, appearance and price dominate market decisions.

CamGAP / differentiated pathway

- Agricultural cooperatives (AC) can coordinate aggregation, standards, traceability and buyer communication.
- Reach to premium markets.

2) BARRIERS TO ADOPTION

- Low awareness and limited familiarity with certification procedures.
- Perceived paperwork, compliance requirements and additional workload.
- Need for technical knowledge and continued support to maintain standards.
- Conventional buyers rarely request certification or traceability.

Without a reliable premium / new market opportunity, farmers see little incentive to bear certification costs.

3) MARKET INCENSIVES AND DIFFERENTIATION

Non-certified

- Buyers primarily value freshness, appearance, volume and price.
- Safer production practices are difficult to monetise when products are mixed and sold without certification or traceability.

CamGAP

- A specialised CamGAP channel demonstrates that certified produce can be differentiated when product identity is maintained and buyers/consumers actively seek safer vegetables

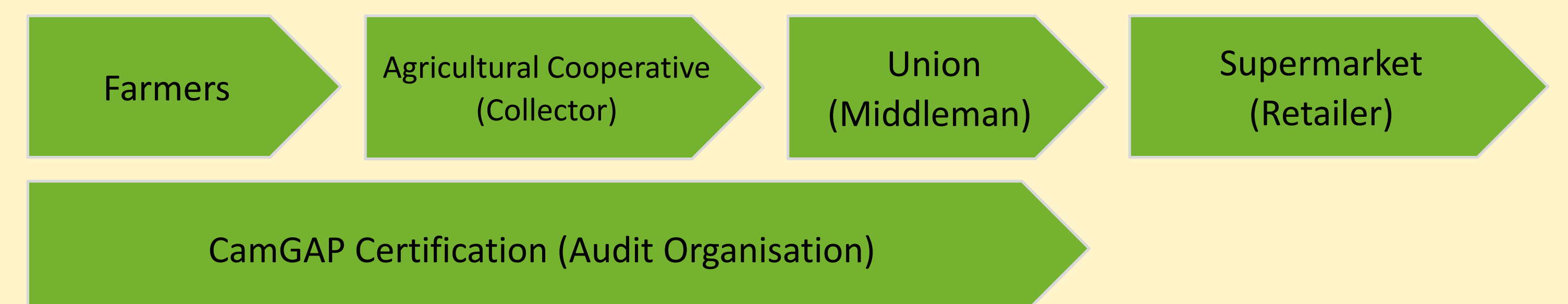


Figure 8: Infographic of vegetable with certification (CamGAP).

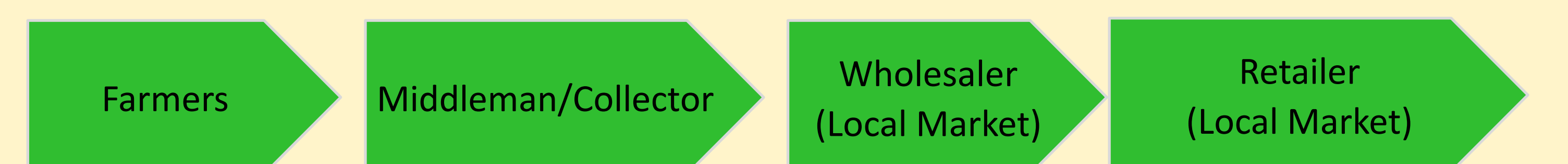


Figure 9: Infographic of vegetable without certification.

Discussion

What makes CamGAP work?

1) CERTIFICATION IS NOT A STAND-ALONE SOLUTION

- Value depends on organisations that help farmers understand requirements, coordinate compliance and connect production to suitable markets.

2) THE KEY BOTTLENECK IS MARKET DIFFERENTIATION

- Farmers generally have outlets for vegetables, but ordinary channels provide little reward for safer production. CamGAP becomes meaningful when certification is recognised by buyers.

3) AGRICULTURAL COOPERATIVES CAN BRIDGE FARM AND MARKET

- They can support aggregation, traceability, quality control and buyer communication, reducing the burden of certification for individual smallholders.

Safer production can contribute to stronger and more resilient value chains when combined with coordination, traceability, stable buyer relationships and farmer support.

Conclusion

- CamGAP alone is not enough.
- Potential to upgrade smallholder vegetable VC depends on whether certification is embedded in **a functioning market system that preserves product identity and rewards safer production**.
- Such value-chain upgrading may also contribute to **greater smallholder resilience** by strengthening coordination and market stability.

Practical training + cooperative coordination + quality control + traceability + reliable differentiated demand

References

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