

# Enhancing AgroEcology and Circular Economy through increased Crop-Livestock Integration in northwestern Vietnam

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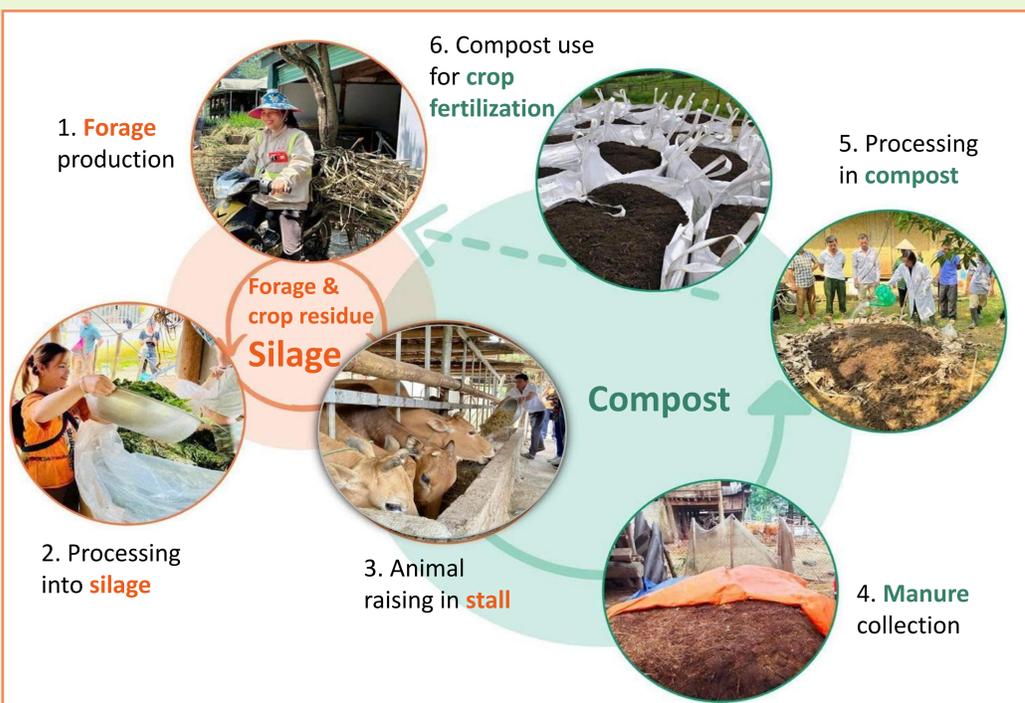


## Problem statement

- Northwest Vietnam face the **dual challenge** to develop both crop and livestock sectors in a context of limited land, labor, and funding resources.
- National targets** for increasing organic fertilizer use and GHG emissions mitigation heighten the **need for practical, affordable, resource-efficient solutions**.
- Increase use of silage & legume** in animal feed can help reducing GHG emissions from enteric fermentation, and increase the collection and transformation of **manure into compost** can help reducing use of chemical fertilizer.

## The solution/Innovation

- ✓ **Forage-Silage-Compost (FSC)** model forms a single, circular system designed to **optimize on-farm resource use, transforming** waste into value and **reducing** reliance on external inputs (chemical fertilizer and concentrate feed).
- ✓ It **enhances** both **livestock feeding** and **crop fertilization** in a mutually reinforcing way.



1. FSC combines forage production, silage-making, and manure composting

## Key results/impacts

- **Reducing land pressure:** Higher-yielding forage crops enable farmers to keep more animals in the same area, thereby improving land-use efficiency.
- **Silage** maintains forage quality, improves crop by-products & conserves feed for periods of shortage.
- **Soil & climate gains:** Composting produces a hygienic, stabilized organic fertilizer that lowers the pathogen risks and nutrient leaching.
- **Closing loops:** Crop-livestock integration keeps biomass in circulation, by using crop and animal by-products efficiently to minimize waste and inputs.

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2. ASSET project activities in Dien Bien and Son La provinces, Vietnam

## Scalability and regional relevance

- 1. Build skills and confidence.** Provide hands-on training and field demonstrations on forage production, silage-making, and manure composting, with regular coaching from extension agents and opportunities for peer-to-peer learning. Farmers can adapt these practices locally, with technical support provided during the adoption phase.
- 2. Secure inputs and tools.** Ensure reliable access to diverse, high-quality forage seeds & cuttings (grasses, legumes) and affordable small-scale equipment and inputs (silage bags, chopper, compactor, canvas, effective microorganisms). Prioritize last-mile delivery and group purchasing to lower costs, especially in remote areas.
- 3. Strengthen services and incentives.** Invest in robust extension services that support early adopters and spread good practices. Offer targeted financial incentives, such as input subsidies, starter cuttings, equipment grants or concessional loans, to reduce upfront costs and de-risk adoption.
- 4. Enable local innovation at scale.** Organize demonstration clusters, nurture farmer champions, and develop local service providers for chopping, bagging, and composting. Embed FSC packages in provincial programs with simple guidelines and monitoring so successes can be replicated.

## Partners and donors involved

### Project partners



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