GRADUATE SCHOOL

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Master of Science in Animal Science

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Below is a strategic Framework designed for involving the community, government and private agencies in the Extension Program.

The project adopts a multi-stakeholder, participatory strategy integrating faculty, students, community partners, and government agencies to ensure effective technology transfer, capacity building, and sustainable livestock development.

Strategic Framework

(Multi-Stakeholder Approach)

Faculty, Students, Community, and Government Participation

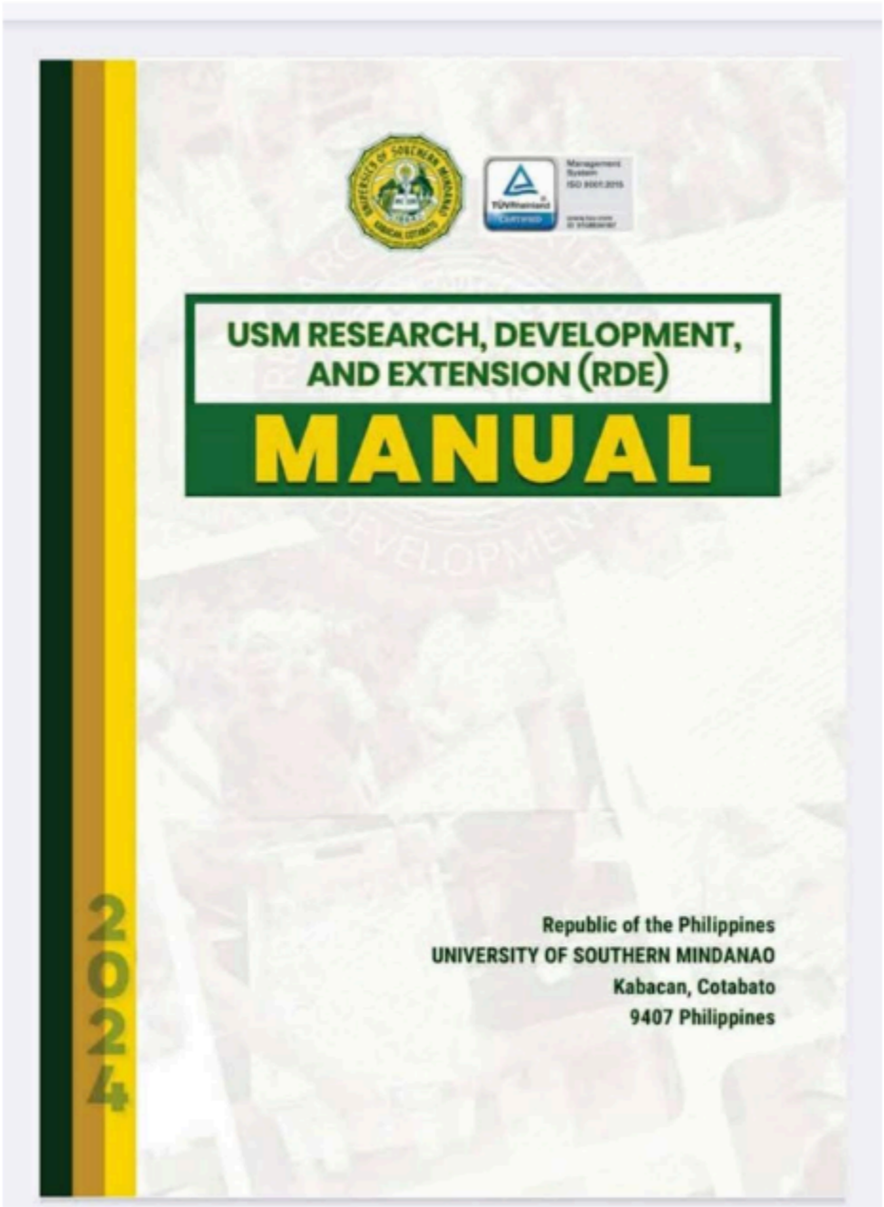
Grass to Gains Silage Making Extension Project

Strategic Area	Strategy Description	Faculty Role	Student Role	Community Role (Farmers/Coops/LGUs)	Government/Agency Role	Expected Output	Expected Outcome/Impact
Participatory Extension	Implement hands-on, community-based silage training using demo farms	Design modules, lead trainings, provide technical expertise	Assist facilitation, support demonstrations	Participate actively, provide local knowledge, host demo sites	Provide technical support, extension workers, logistics	Trainings conducted, demo farms established	Increased adoption of silage technology and community ownership
Faculty-Led, Multi-Stakeholder Model	Use a team-based approach integrating academe, community, and agencies	Lead coordination, mentoring, and technical supervision	Serve as extension aides and facilitators	Collaborate in planning and implementation	Deploy technicians, co-facilitate activities	Functional extension teams, coordinated activities	Efficient and inclusive extension delivery
Research–Extension Integration	Translate research outputs (e.g., LAB inoculants, silage systems) into field application	Provide research-based innovations, supervise trials	Conduct data collection, assist in trials	Validate technologies under local conditions	Support validation, provide funding/technical inputs	Field trials completed, validated technologies	Improved silage quality and livestock productivity
Experiential Learning (OBE-Aligned)	Integrate extension activities into academic programs	Align with curriculum, supervise student outputs	Participate via practicum, thesis, and fieldwork	Serve as learning partners/hosts for students	Provide exposure programs, technical immersion support	Student research outputs, practicum reports	Enhanced student competencies and community-academe linkage

Capacity Building & Technology Transfer	Conduct continuous training, mentoring, and coaching	Deliver lectures, develop IEC materials	Assist in training delivery and documentation	Attend trainings, adopt technologies	Provide resource persons, training materials, funding support	Trained farmers, IEC materials developed	Increased technical capacity and productivity
Partnership & Linkaging	Strengthen collaboration through formal agreements and joint programs	Initiate MOAs/MOUs, maintain partnerships	Assist coordination and documentation	Engage in agreements, support project activities	Provide institutional support, policy alignment, funding	Signed MOAs/MOUs, joint initiatives	Strong, sustained partnerships
Monitoring & Evaluation	Implement participatory monitoring and feedback mechanisms	Lead evaluation, analyze results, prepare reports	Collect field data, assist documentation	Provide feedback, track adoption and issues	Assist in evaluation, provide benchmarks and tools	M&E reports, adoption data	Improved program effectiveness and responsiveness
Sustainability Strategy	Institutionalize silage practices and develop local champions	Train farmer leaders, integrate into university programs	Support follow-up mentoring and documentation	Form silage groups, continue practices independently	Provide continuous extension services, funding support	Organized farmer groups, sustained practices	Long-term sustainability and increased income
Policy & Program Alignment	Align project with national and regional agricultural programs	Ensure compliance with policies and frameworks	Support documentation and reporting	Align local practices with policies	Provide policy guidance and integration support		

An infographic summarizing the strategy

In the USM RDE Manual, a strategy is stipulated as to engagement with other sectors.



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C**ommunity Engagement Proposal: "Grass into Gains: Promoting Silage Production for Livelihood and Livestock Development"**

A Project of the Graduate Students of the Department of Animal Science

Rationale

Livestock production in the Philippines faces recurring challenges in feed availability and rising costs, particularly during the dry season and periods of limited pasture growth. Silage production provides a practical, cost-efficient, and sustainable solution to ensure a year-round supply of high-quality forage. Training farmers, livestock raisers, extension workers, and agricultural students on silage production techniques will strengthen local livestock industries by improving feed security, reducing waste of surplus forage, and enhancing productivity.

Objectives

· Introduce participants to the principles, importance, and benefits of silage in livestock feeding systems.

· Demonstrate different silage production techniques (e.g., chopped Napier grass, corn, legumes, and crop residues).

· Provide hands-on training on silage preparation, packing, sealing, and storage.

· Familiarize participants with quality assessment, nutritive value, and utilization of silage in ruminant diets.

· Promote sustainable feed resource management and income-generating opportunities for farmer-cooperatives and MSMEs.

Target Participants

· Farmers and livestock raisers

· Members of cooperatives/associations

· Agricultural extension workers and technicians

· Students and faculty in agriculture/animal science

Training Methodologies

· Lectures & Presentations: Principles of silage, nutritional importance, and economics.

· Demonstrations: Step-by-step preparation of silage using local feed resources.

· Hands-On Practice: Chopping, mixing, packing, and sealing silage in drums, plastic bags, and pits.

· Group Discussions: Sharing of experiences and best practices in feed preservation.

· Evaluation & Feedback: Assessing knowledge gained and areas of improvement.

Proposed Topics

1. Introduction to Silage Production – Importance, advantages vs. hay, and limitations.

2. Raw Materials for Silage – Suitable forages, grasses, legumes, crop residues.

3. Principles of Ensiling – Fermentation process, role of lactic acid bacteria, moisture requirements.

4. Silage Preparation Techniques – Field harvesting, chopping, wilting, additives (molasses, LAB inoculants).

5. Silage Storage Structures – Plastic bags, drums, pits, bunkers.

6. Silage Quality Evaluation – Physical appearance, smell, pH, proximate analysis.

7. Feeding Management – Incorporation of silage in ruminant diets.

8. Cost-Benefit Analysis – Economics of silage making vs. commercial feeds.

Duration and Venue

Duration: 1–2 days (flexible depending on depth of training) per batch

Venue: University demonstration farm / cooperative training center / local barangay hall with nearby forage area

Expected Outputs

· Participants equipped with knowledge and skills in silage production.

· At least one silage product prepared during training (demo silage in drums or bags).

· Strengthened community capacity in feed resource conservation.

· Potential enterprises on silage production for cooperatives/MSMEs.

Budgetary Requirements (Sample Estimate)

Item	Quantity	Estimated Cost (PHP)
Training kits (modules, pen, notebook)	30 pax	6,000
Honorarium for resource speakers	2 speakers	10,000
Food and snacks	30 pax x 2 days	18,000

Materials (plastic drums, bags, molasses, forage crops, LAB inoculant)	Lump sum	12,000
Venue, logistics & documentation	Lump sum	5,000
Total Estimated Cost		51,000

Implementing Agency & Partners

Lead Organizer: University / Extension Office / Regional Agribusiness Hub

Partners: DA, DOST-PCAARRD, LGUs, farmer cooperatives, private agribusiness stakeholders

Monitoring & Evaluation

- Pre- and post-training evaluation questionnaires
- Documentation of hands-on activities
- Feedback from participants and trainers
- Follow-up survey on application of silage techniques in farms within 3–6 months