

Supporting Documents – Proposed Solution

(Southern SARE Farmer Grant: Developing a Mobile Restraint System for Small-Scale Kosher and Halal Slaughter)

1. Example Mobile Slaughter Workflow

Purpose: Demonstrates how the proposed restraint system integrates with existing USDA and NC mobile harvest frameworks.

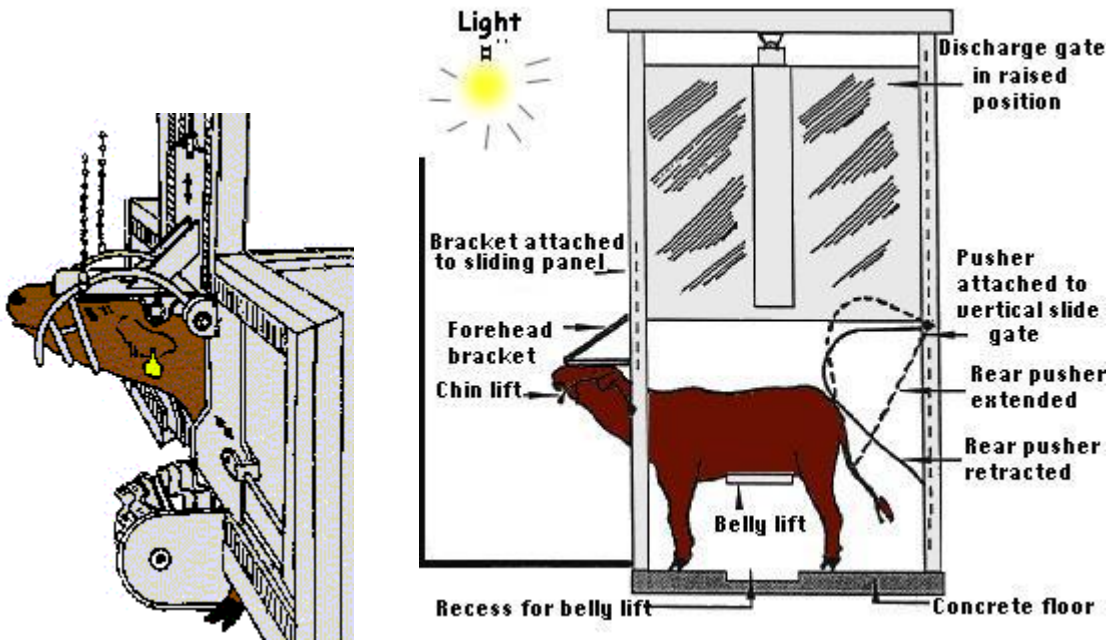
Workflow Steps:

1. Animal is humanely restrained on-farm using modified chute.
2. Kosher or halal slaughter is performed under appropriate supervision.
3. Carcass is immediately loaded into a refrigerated transport unit.
4. Carcass is transported to a USDA-inspected facility for chilling, inspection, and processing.
5. Final packaged meat is labeled, approved, and sold retail or wholesale (if under inspection).

This process stays within USDA guidelines while dramatically increasing humane handling and access to small-scale religious slaughter.

2. Base Equipment Diagram: Modified Squeeze Chute

Purpose: Provides a visual reference for reviewers to understand the project's mechanical innovation. The project will adapt the first diagrams of Dr. Grandin's design onto a mobile chute like the one shown below.



Key Modification Zones:

- *Head Restraint Adaptation:* allows stable, upright positioning for kosher/halal slaughter.
- *Safety Stabilizers:* prevent movement without causing discomfort.

- *Mobility Frame*: enables transport between farms.
- *Quick-Clean Surfaces*: meet sanitation and humane handling requirements.

These modular components ensure the system remains affordable, replicable, and compliant with humane handling standards.

3. Cost Comparison Table: Proposed vs. Conventional Systems

System Type	Description	Estimated Cost	Accessibility	Notes
Conventional Slaughter Plant	Small USDA-inspected facility	\$500,000–\$1,000,000+	Low	Requires building, wastewater, and full-time inspector.
Mobile Harvest Trailer	Fully equipped USDA-inspected unit	\$250,000–\$400,000	Medium	Complex to operate; limited availability.
Proposed Restraint Prototype	Modified squeeze chute for humane kosher/halal slaughter	\$10,000	High	Modular, replicable, and suitable for on-farm or cooperative use.

This cost comparison highlights how the proposed design democratizes access to humane, religiously compliant slaughter for small-scale producers.

4. Expert Statements (Halachic & Educational Advisors)

Purpose: Confirms that the design aligns with religious, ethical, and educational standards.

“The proposed restraint system offers an important innovation in making kosher and halal slaughter more accessible while maintaining humane and halachic standards. This project fills a critical need for small, faith-aligned producers.”

— **Rabbi Chaim-Eliezer Edelstein**, Temple Beth Ahm, NJ

“Making practical shechita tools and training accessible to small farmers represents a meaningful step toward ethical, community-based food systems. This project embodies that goal by combining humane design, religious integrity, and open-source education.”

— **Rabbi Shlomo Zacharow**, Sacred Slaughter Institute, Jerusalem

5. Reference Notes

- Temple Grandin. *Humane Handling and Restraint Systems*, 2018.
 - USDA FSIS. *Mobile Slaughter and Processing Units Guidance*, 2023.
 - Southern SARE Project FS19-310. *Mobile Meat Processing for Small Farms*.
 - Sacred Slaughter Institute. *Halachic and Ethical Framework for Small-Scale Shechita*, 2024.
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Summary

This supporting documentation provides visual, technical, and expert context demonstrating that the proposed solution is:

- Technically feasible with existing equipment and farm skills.
- Affordable, replicable, and legally compatible with USDA frameworks.
- Ethically aligned with humane and religious slaughter practices.
- Designed to improve sustainability, accessibility, and inclusivity in Southern agriculture.