Phase 1 (proof of concept, ME328) Knowledge Gaps:

* What is farming like in Uganda?
* What are the project criteria for Uganda and for Phase 1 (ME328 work: proof of concept)
* **What is the motor performance for the Phase 1 motor?**
* **What force is required to pull a plow in the Phase 1 test facility?**
* Does gear-ratio theory apply sufficiently well for Phase 1 design work. In other words, we need to develop confidence in win /wout = Tout/Tin – **will it work sufficiently well for different gear ratios?**
* What are common types of transmissions and which would be best for the Uganda project? (Lulay will provide more details later in the semester – assume this will take 2 weeks)
* Through analysis, which gear ratio would work best for the yet-to-be-determined requirements for Phase 1 testing?
* **Will the gear ratio we select through analysis work as well as expected?**

Phase 2 (scale-up, ME328) Knowledge Gaps:

We will be going one step beyond proof of concept development in ME328. Phase 2 will be small demonstration of ability to scale-up from Phase 1. After completing Phase 1, you will design and construct a mid-sized prototype using parts and materials made available later this semester. You will answer the following two knowledge gaps:

* Based on analysis, what is the optimal gear ratio for achieving a specific goal using a given (and already characterized) motor.
* **Did the analysis provide a good answer?**

**BOLD** items indicate physical testing is required.

Each of these KG’s will require a DID to be completed – some have already been completed. The due dates are up to each team to establish, but it is highly recommended that they be submitted weekly.