ALTERNATIVE FARMING SOLUTIONS

Objectives and Constraints
Constraints

- Cost – Looking for possible donations from local companies, will work to keep cost of vehicle minus the engine below $1000
- Size – No larger than a small truck, possible to fit in shipping crate, so width less than 8 ft.
- Weight – Frame must be large enough to support tilt bed with full load but not oversized to limit speed, the team has put an initial limit of 1500 lbs.
- Climate – Withstand the hot temperatures
- Maintenance – availability of parts which may need to be maintained throughout the lifetime of the vehicle
- Easy Use – Vehicle functionality must be easily understood by any operator.

Goals

- Cargo – Able to hold a full load of cargo in the bed along with two passengers
- Speed – Able to travel around villages in reasonable time while still gearing down to plow a field, initial goal of 15 mph top speed
- Plow – Will be able to cut through dry hard packed soil with limited kick back and wear on plow blade
- Generator – Able to output 5,000W while maintaining low rpm’s on the engine, will be able to support electrical uses of single family home
- Bed Lift – Lift the maximum load, initial limit of 1000 lbs.
- Tires – Must be able to withstand terrain without punctures or flats

Requirements

- Run strong through difficult terrain – engine capabilities along with appropriate ground clearance and tires provide desired off-road functionality
- Plow a field without bogging down and getting stuck in the field