

POO POWER

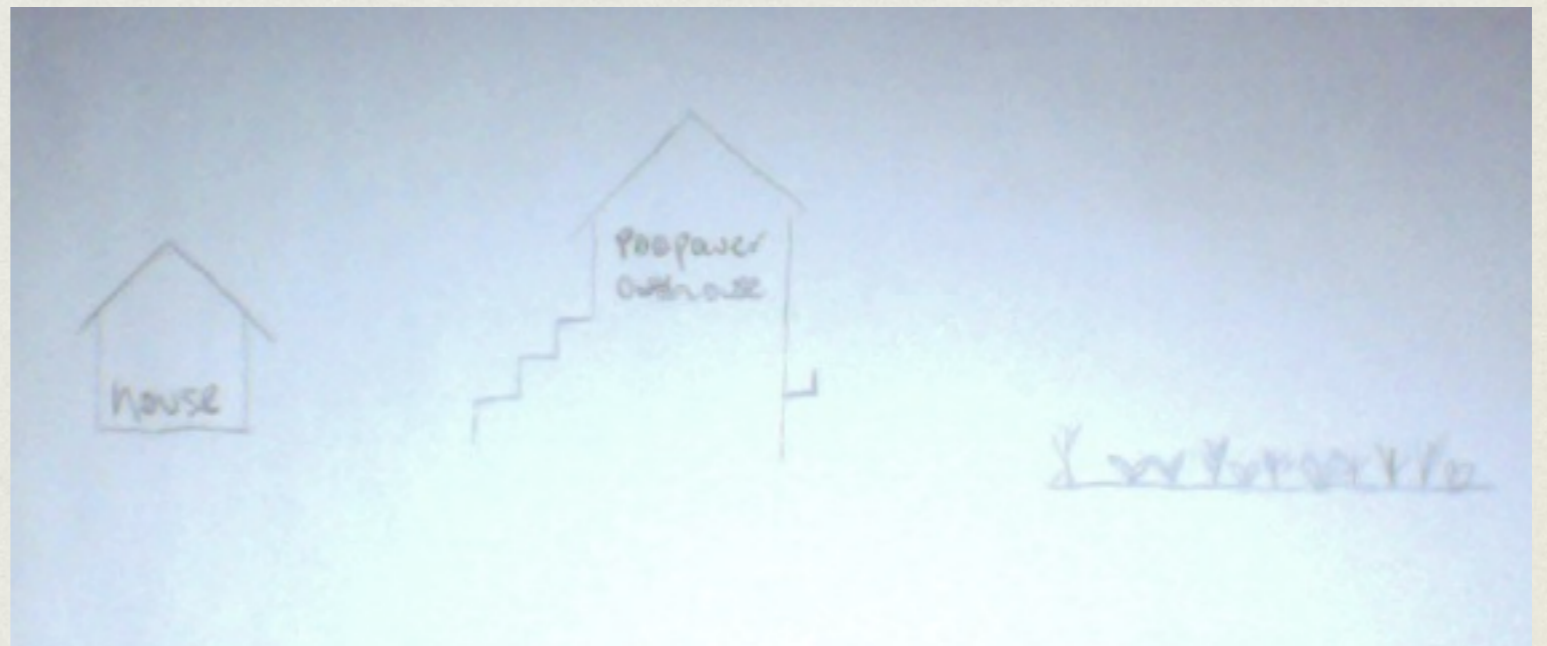
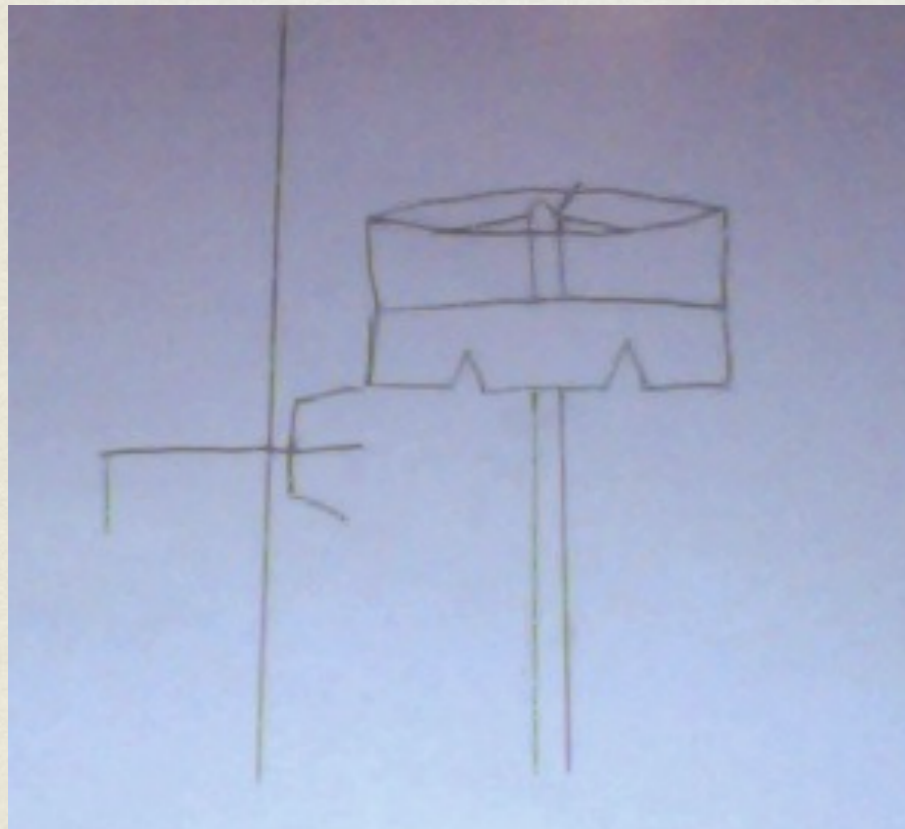
By Nora G. and Cecilie F.

THE PROBLEMS

- Only 64% of the world as of 2011 had basic sanitation coverage.
- 70% of impoverished people who live in rural areas rely on agriculture as their main source of income.
- Droughts and rising fertilizer costs have made farming more difficult.



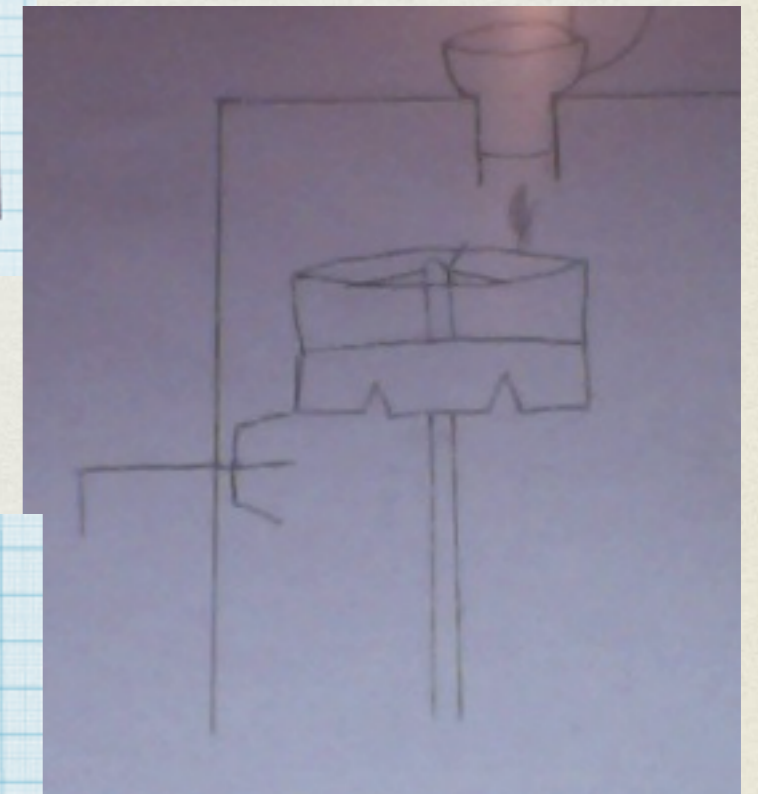
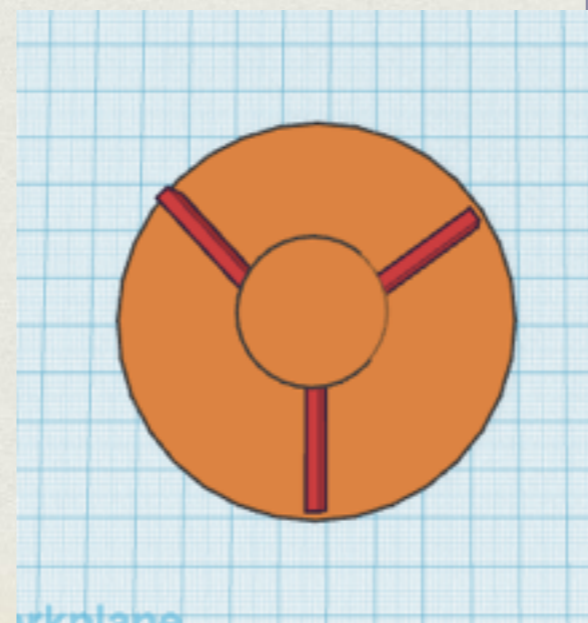
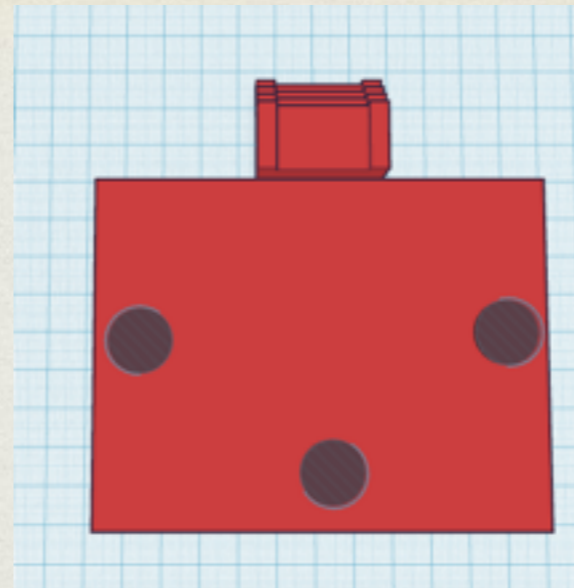
OUR SOLUTION



- The Poo Power outhouse improves sanitation and thus decreases health risks.
- Would provide free, safe fertilizer to impoverished rural farmers.

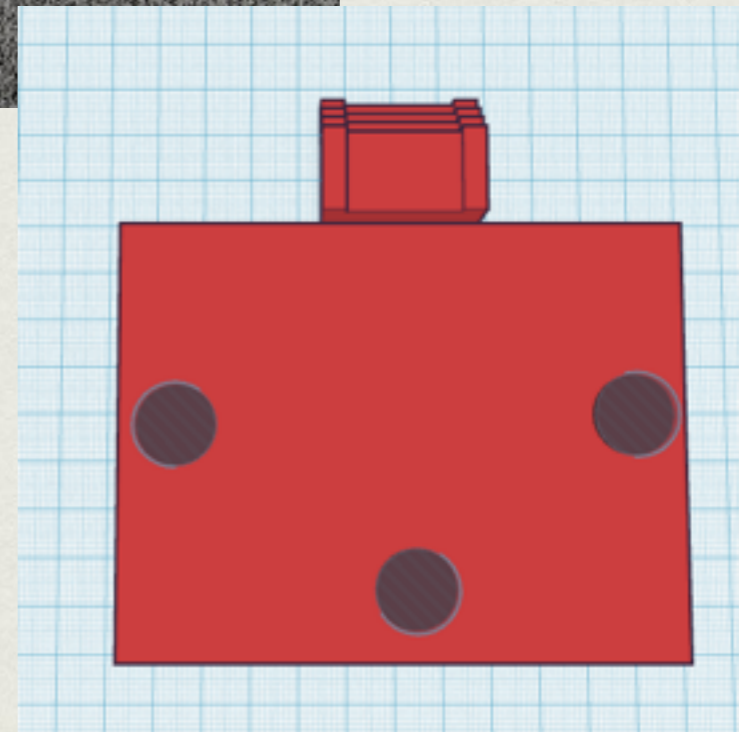
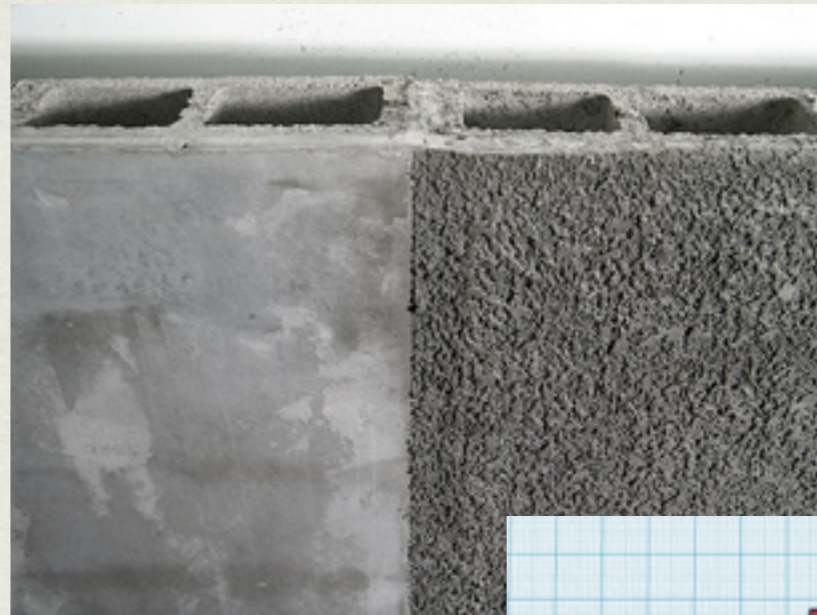
HOW IT WORKS

- After each month, use crank.
- Crank pushes the teeth.
- The structure with the compartments will rotate on the axis as you use the crank.
- After 3 months, move toilet to next hole and place cap on first hole.



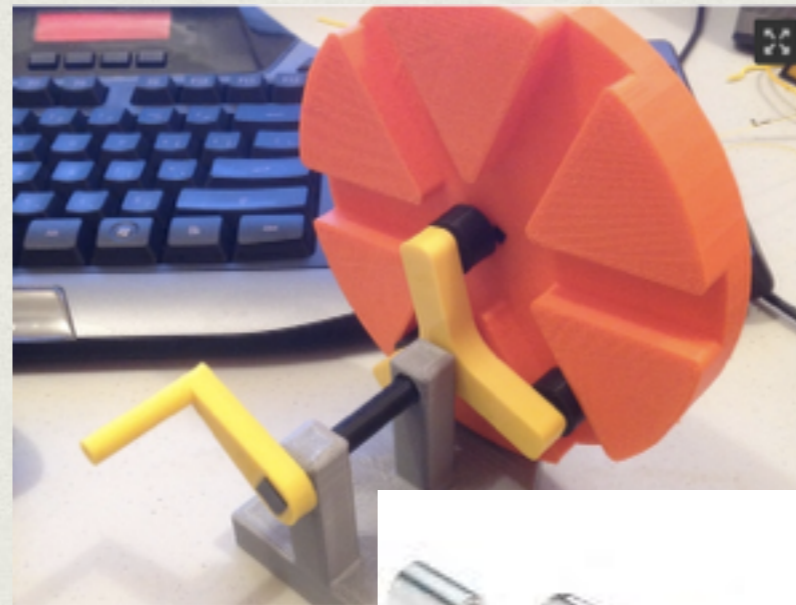
THE DESIGN PROCESS

- Pump
- Gigacrete
- 9 sections
- Crank-Gear system
- 3 toilet-holes and 3 cranks



PHYSICS ELEMENT

- Gears and Crank
- Force needed to use the gear $F = ma$ 219.48
 $Nt = (438.96 \text{ kg})(0.5 \text{ m/s}^2)$ vs 658.44
 $Nt = (1,316.88 \text{ kg})(0.5 \text{ m/s}^2)$



CONCLUSION

- Large market
- Domino Effect
- Could improve the lives of 70% of poor rural population--200 million or more people.



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