

TSE Lecture

Engineers Without Borders

- **Theme: Solving Problems that Matter**

- Quote by Kofi Annan
- Engineering gives us the knowledge and skills to solve important and complex challenges both locally and around the world
- Engineering in The Past
 - Sanitation in the old times was a big issue, no flush etc.
 - London, England 1853: SEWERS invented
 - Engineers needed to problem solve
- Engineering is very versatile
 - Many different problems that need to be solved
 - Problems of Today:
 - Renewable Energy Sources
 - Making solar energy cheaper and more widespread
 - Storing Carbon dioxide somewhere
 - Diseases
 - Biomedical fields
 - Finding vaccines, etc.
 - Extreme Poverty
 - EWB focuses on fixing poverty in Sub-Saharan Africa
 - Malawi water supply issue
 - Long distances to get water
 - Solution: Water Pump
 - Time to work, still needs time to get

- Engineering Idea: Play Pump
 - Kids can have fun and get water at the same time
 1. Kids spin the wheel
 2. Water pumps up to a 2500 L tank
 3. Excess water stored underground
 - Didn't work because kids in there don't play with this wheel
 - Women needed to pump it
 - Kids in Africa don't have time to play with the wheel
 - All international parts so can't be fixed by the people
 - Very expensive
 - Many problems with service and repairs
 - Solution?
 - Have parts manufactured locally so the people would know how to fix them
 - **Poverty is a very complex problem**
 - Goals of EWB:
 - Supporting Rural African Capacity
 - Advocating for improved Canadian policies towards Africa
 - Helping the engineering profession serve global society
 - Engaging Canadians to contribute and connect to Africa
 - Goal of this lecture
- EWB & What They Do
 - National Level:
 - Investment in 5 work policies
 1. Small and growing businesses that Drive Social Good
 2. Adaptive Public Services that are responsive to citizens' needs

3. Food systems that are resilient and support livelihoods
 - 4.
 - 5.
- Advocacy
 - Raising awareness among Canadians about how they can make decisions that will positively impact international communities
 - Encouraging Canadians to become model global citizens by taking a leadership role in poverty alleviation
 - Global Engineering
 - Work local, think global
 - Systems analysis
 - Looking at the bigger picture
 - Social, economic, cultural factors
 - Changing the curriculum
 - Connecting Canadians to Africa
 - Campus Level:
 - Campus has a Fair Trade club by an EWB student
 - Working on making Carleton a Fair Trade Campus
 - Why Volunteer?
 - Personal Development
 - Leadership
 - Time management
 - Drive
 - People skills
 - New Friends and connections
 - Learn about global issues

Friday, November 6, 2015

- Opportunity for great change