

# A Christian Approach to the Ethics of International Development Projects

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Waco

# Authors

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# Background to the presentation

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- 2009 ASA paper by Brian Thomas
  - **Microhydro-Generation of Electricity:  
Providing Physical and Spiritual Light in  
Honduras**
- 2009 ASEE paper
  - **Ethical Issues Related to International  
Development Projects**
- 2006 paper at the National Faculty  
Leadership Conference
  - **A Christian Perspective on Virtue Engineering  
Ethics**

# Outline

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- Brief introduction to virtue ethics
- Virtue ethics and Christianity
- Christian Virtue ethics applied to engineering
- Christian Virtue ethics applied to international development projects

# Introduction to Virtue Ethics

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- Most people consider this ultimately comes from the work of Aristotle
- Aristotle
  - Lived 384-323 B.C.
  - Was a student of Plato

# Aristotle's ethics

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- He begins by looking at the final goal of human beings
- He concludes that our final goal is well-being.
  - We therefore need to seek well-being in our life
- He concludes that well-being can be obtained by leading a virtuous life

# Classic Virtues to be emulated

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- Cardinal virtues which date from Aristotle
  - Prudence
  - Temperance
  - Fortitude
  - Justice
- Additional virtues attributed to Thomas Aquinas
  - Faith
  - Hope
  - Love

# Thomas Aquinas

- He once again made Aristotle's views popular
- He lived 1225-1274
- Most of his adult life he was a professor
- He added the last three virtues to the list of classic virtues





# Modern Interpreters of Virtue Ethics

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- William Bennett
  - *“The Book of Virtues”*
- Alasdair MacIntyre
  - *“After Virtue: A Study in Moral Theory”*

# Virtue ethics and religion

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- Is virtue ethics inherently religious?
  - No. This perspective dates from Aristotle, who is not considered today to be a religious figure
  - Many cultures have embraced this perspective
  - Carolyn Whitbeck writes:
    - “The notions of a moral rule, and that of virtue...have been explicitly used in a larger range of cultures than has the notion of a right. Virtually every ethical and major religious tradition employs some counterpart of the notions of virtue and moral rule.”

# Virtue ethics and the Bible

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- We will examine Biblical support for some of the classic virtues

# The Classic virtue of Justice

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- Justice concerns our will and has two aspects: truth and fairness
- Proverbs 21:3  
To do what is right and just  
Is more acceptable to the Lord than sacrifice
- Micah 6:8  
He has showed you, O Man, what is good,  
And what does the Lord require of you?  
To act justly and to love mercy  
And to walk humbly with your God

# The Classic virtue of Hope

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- This gives us a confidence about the future
- Romans 5:1-2
  - Therefore, since we have been justified through faith, we have peace with God through our Lord Jesus Christ, through whom we have gained access by faith into this grace in which we now stand. And we rejoice in the hope of the glory of God.
- Jeremiah 29:11
  - “For I know the plans I have for you,” declared the Lord, “plans to prosper you and not to harm you, plans to give you hope and a future.”

# The Classic virtue of Love

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- I John 4:16-19

God is love. Whoever lives in love, lives in God and God in him. In this way, love is made complete among us so that we are like him. There is no fear in love. But perfect love drives out fear, because fear has to do with punishment. The one who fears is not made perfect in love. We love because he first loved us.

- I Cor 13:13

And now these three remain: faith, hope and love. But the greatest of these is love.

# Classic Virtues and the Bible

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- The seven classic virtues all reflect character traits that the Bible strongly recommends
- If someone follows a virtue ethics perspective, he will be following a lifestyle that is consistent with the Bible
- We can conclude that a virtue ethics perspective is compatible with the Bible

# Virtue ethics and engineering

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- Martin and Schinzinger describe this as one of several approaches that can be taken with respect to engineering ethics
- Seebauer and Barry develop a virtue engineering ethic in their book *Fundamentals of Ethics for Scientists and Engineers*
- Jordan, W.M., *A Virtue Ethics Approach to Engineering Ethics*, presented at the A.S.E.E. Annual Meeting in Chicago, June 2006.



# Christian virtue ethics and international development projects

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- Baylor had initially done pure service projects.
- For a variety of reasons we are moving to also doing development projects

# Baylor and service learning

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- Students have created a local service organization, **Engineers with a Mission**, to coordinate projects
- We have done projects in:
  - Kenya
  - Armenia
  - Honduras
  - Philippines
  - Vietnam
  - Papua New Guinea
  - Rwanda

# Service learning and poverty

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- Many service learning projects relate to poor people or poor communities
  - They are the groups that cannot directly pay someone to meet their engineering needs
- This is considered a “bottom up” approach to poverty.
  - Helping the people directly without worrying about governmental policies and projects

# Ethical Issues Related to Service Learning

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- While there are many ethics issues with any project, this paper will concentrate on three:
  - Quality and safety of the design
  - Liability issues
  - Relationship to the community being served

# Safety issues

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- Everything that is built has a finite probability of failure
- Engineers seek to minimize
  - The probability of the failure
  - The severity of the failure

# Risk Analysis

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- The probability that can be accepted depends upon the severity of the failure
- High probability/high severity should be avoided
- If severity is low, a higher probability of failure can be accepted
  - For using a razor blade, most men could accept high probability of failure, for the severity of a cut is not too high

# Risk Analysis

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- If the severity is moderate, then the probability of failure must be kept very low
- For example, most people would accept a higher probability of failure in one of their electric lights than they would in a car axle.

# Risk Analysis

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- The virtue of prudence requires us to be very careful in our calculations.
  - We must give our very best talents and thinking to the project, not just our extra time when we are tired or bored
- The virtue of justice demands that we not implement projects that will have the potential to seriously hurt people if they fail



# Safety and Liability

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- Improper analysis of safety could lead to serious legal and moral liabilities
- Example
  - We at Baylor had nearly completed our design of a 340 foot long pedestrian bridge for rural Kenya when a similar bridge failed in Nepal
    - This bridge was also built largely by volunteers

# Nepal Failure

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As a result of  
this we totally  
redesigned  
the bridge



# Liability

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- The virtue of justice requires us to accept moral and legal responsibility for what we are doing
  - Just because the location does not have the strict standards that exist in the U.S. does not mean we can cut corners and not produce a quality product.
    - This does not mean we have to obey all U.S. standards when working in another country.

# Community Issues

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- In traditional design, the engineers try to design what the customer wants
- When working with local communities, it is not obvious who are the real customers
  - Local non-profits are frequently acting in the name of the local community
    - Does the local community really want what the non-profit is asking you to do?

# Issues that affect community involvement

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- William Oakes and Marybeth Lima's book **Service Learning: Engineering in Your Community**, raises several issues that need to be addressed
- Engineers and engineering students frequently do not seriously think about how their design might impact a community.
  - The social implications of their designs are not one of the criteria that is used to assess its success.

# Issues that affect community involvement

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- Engineering should be done in a democratic way
  - Does not mean that everyone votes on everything
  - It does mean that the local community needs to be involved in the decision making process concerning the project
    - This is very consistent with both the virtues of justice and love.

# Examples of community involvement

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The Sonrise School near Musanze, Rwanda has requested help with water and electricity.

We took a team there in May 2009.



# Testing for water quality

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They boiled their cooking and drinking water before using.

Their boiled water had more bacteria than the original water





# Clean water from the purifier



# Believing in the quality of your work

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- One measure of how prudent, justice supporting, and loving you have been is whether you are willing to use the design yourself
  - In Rwanda we were the first people to drink the newly purified water

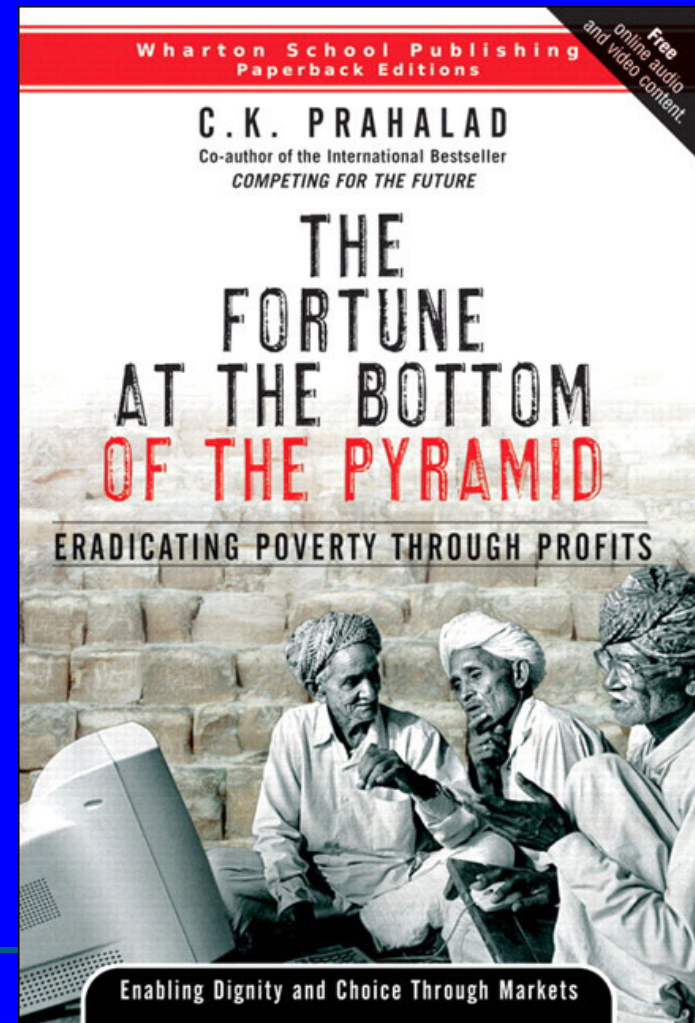
## Our changing to doing some development related projects

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- We began to realize that many of our projects were not sustainable.
- We have begun to create companies that can sustain them.
  - “Anything unjust is ultimately economically inefficient, and anything just is ultimately economically efficient (though it may appear otherwise in the short run).” - Calvin Beisner in Prosperity and Poverty

# Transition from Traditional Charity to Development Business

- Influential Book by C.K. Prahalad
- Begin to see the poor as customers
- Example from our work in Honduras





# Customer Profile

- **Agricultural Worker**
  - Village of 50-500 people
  - Grows own food
  - Works fields of land-owners for \$4-5 per day
  - Energy Costs  
\$7.44/month



Pueblo Nuevo, Honduras, 2008

## Seeing the poor as customers

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- When you do this, you begin to see them as real people with real needs
  - You are showing love to them
- This means you need to create something they actually want to have
  - Showing respect and love for them and their desires

# Village-level Electricity Companies

- Electricity generated from hydropower
- Distributed to homes via 120 VAC lines
- 1 Amp Circuit breakers per home
- Monthly fees about same as energy costs before electricity
- Locally maintained by owner-operators



# Ethical issues

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- Whom is the for-profit company serving
  - It must make a profit to sustain itself
  - Making a profit cannot be its only goal
- The virtues of justice and love demand that we
  - Treat the employees fairly
  - Treat the customers fairly
  - Treat the investors fairly (by a decent return on their investment)



# Ethical issues

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- We are creating a company with a triple bottom line
  - Financial profit
  - Help people
  - Help environment
- **Company will only be judged successful if it fulfills all three goals**

# Our Electricity Can...

- Generate modest Profits for investors
- Also generates Income for villagers:
  - From electricity sales (for franchise)
  - From spawning of micro enterprises that use electricity (like this sewing business)



Danta Uno, Honduras 2009

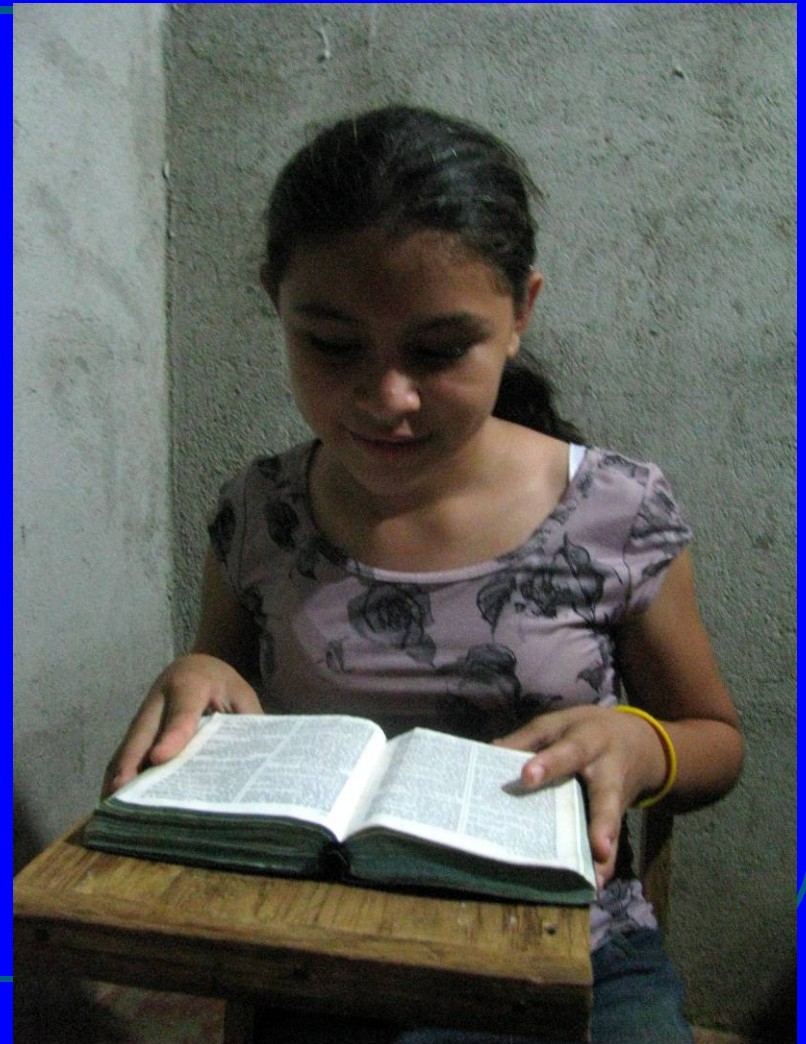
# Our Electricity Can...

Danta Uno, Honduras 2009



## Help People by

- Improving education
- Enabling increased productivity
- Improving quality of life
- Evoking a new sense of hope and dignity



# Our Electricity Can...



Kibera, Nairobi, Kenya 2006



Danta Uno,  
Honduras, 2008

## Help our Planet by

- Replacing the 1.1 million liters of kerosene burned per year per 100,000 people
- 11,800 tons of CO<sub>2</sub>
- Decrease water table contamination from improper disposal of alkaline batteries

# Conclusions

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- Engineering service learning projects have a unique set of ethical issues that must be faced beforehand if the projects are to be successful
- A Christian ethical perspective requires us to make sure our designs are:
  - Safe
  - Have community support



## Conclusions

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- Development related projects should consider establishing companies that have a triple bottom line that includes directly helping the people in the poor community you are trying to serve
  - The triple bottom line is consistent with us having a love of the people with whom we are working and a concern for them to be treated justly.

# Any Questions?

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