

Using visuals to facilitate interdisciplinary learning



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On interdisciplinary learning



- Graduates from colleges of agriculture need to demonstrate depth and breadth of knowledge in their field as well as ability to analyze, synthesize, and integrate knowledge and methods from several disciplines
- How do we facilitate interdisciplinary learning of our students?

On interdisciplinary learning



- Some universities emphasize the importance of programmatic interdisciplinary curriculum and offer university/college-wide problem-based interdisciplinary programs
- Others shift to the instructors the responsibility for student interdisciplinary learning
- Others shift the responsibility to the students
- Others “know” that the “real” world will take care of it

On interdisciplinary learning



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On interdisciplinary learning



- Instructors should include interdisciplinary learning objectives in their courses and modify course structure, content, and pedagogy accordingly

Objective of the presentation



- Discuss how visuals may be used to facilitate student interdisciplinary learning
- Examples
 - Teacher-centered
 - Student-centered

If teacher-centered focus



- Non-interdisciplinary focus: Continue to deliver information in linear, separate, units of information even when teaching “interdisicplinary” topics



Goal 1
Eradicate Extreme Hunger and Poverty



Goal 2
Achieve Universal Primary Education



Goal 3
Promote Gender Equality and Empower Women



Goal 4
Reduce Child Mortality



Goal 5
Improve Maternal Health



Goal 6
Combat HIV/AIDS, Malaria and other diseases



Goal 7
Ensure Environmental Sustainability

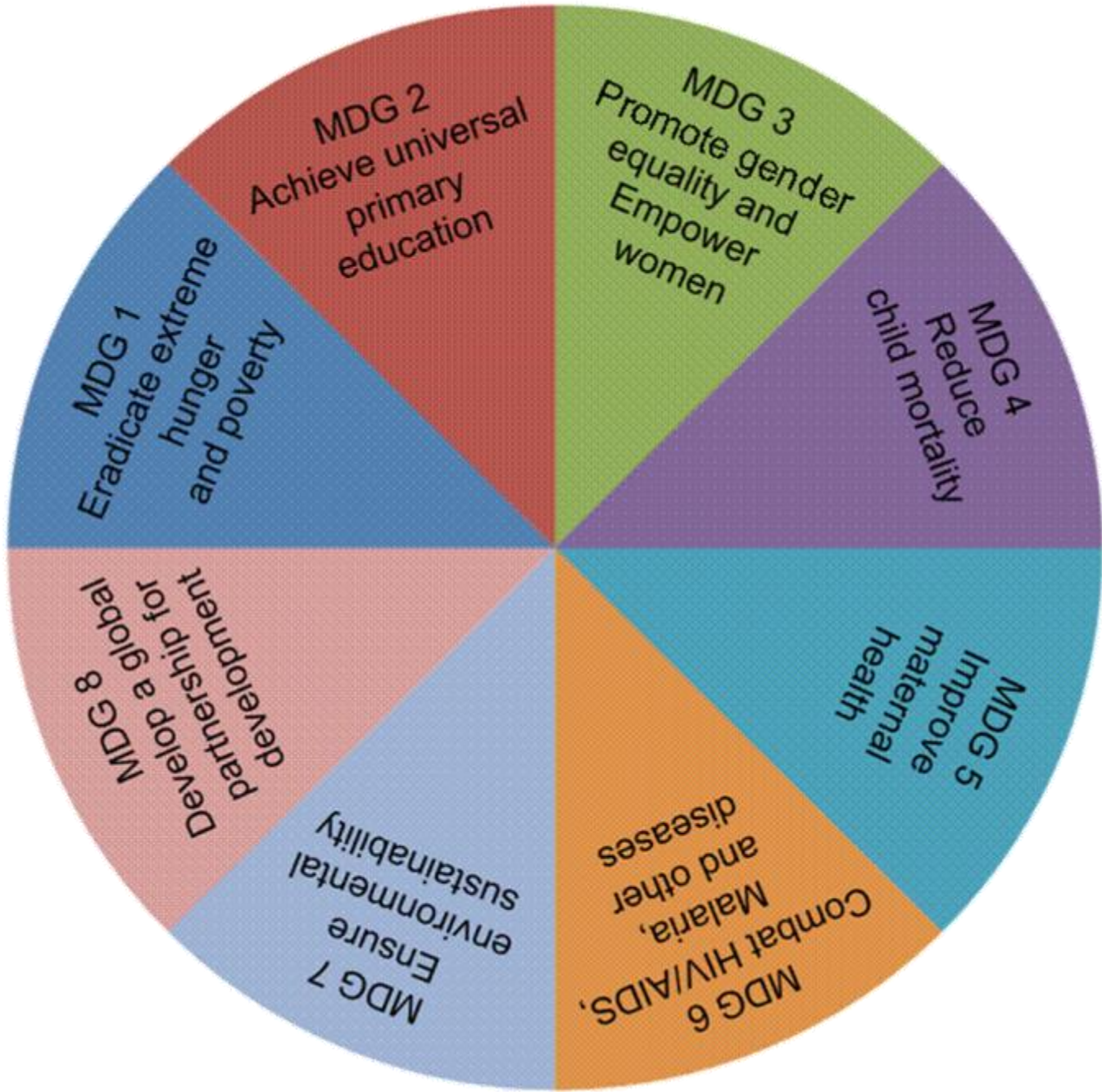


Goal 8
Develop a Global Partnership for Development

If teacher-centered focus

- Express them from an interdisciplinary, interconnected, dynamic, and transferable perspective



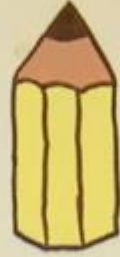








1911/12
↳ Better nutrition? improvement in maternal



time for children to attend school.

More productive and diversified agriculture

Improvements in farming practices allow more





The improved economy allows more people to access healthcare.



The increase in productivity and diversity of agriculture increased the economy through jobs and produce sales.



The stabilization of land reduced erosion and the loss of land, provided better crop yields.



Farmers sell surplus produce in global markets.



World Bank formed a partnership with the Chinese government and the local people.



More productive and diversified agriculture → better nutrition → reduction in child mortality.



The development project created jobs for women.



More productive and diversified agriculture → better nutrition → improvement in maternal health.



Improvements in farming practices allow more time for children to attend school.

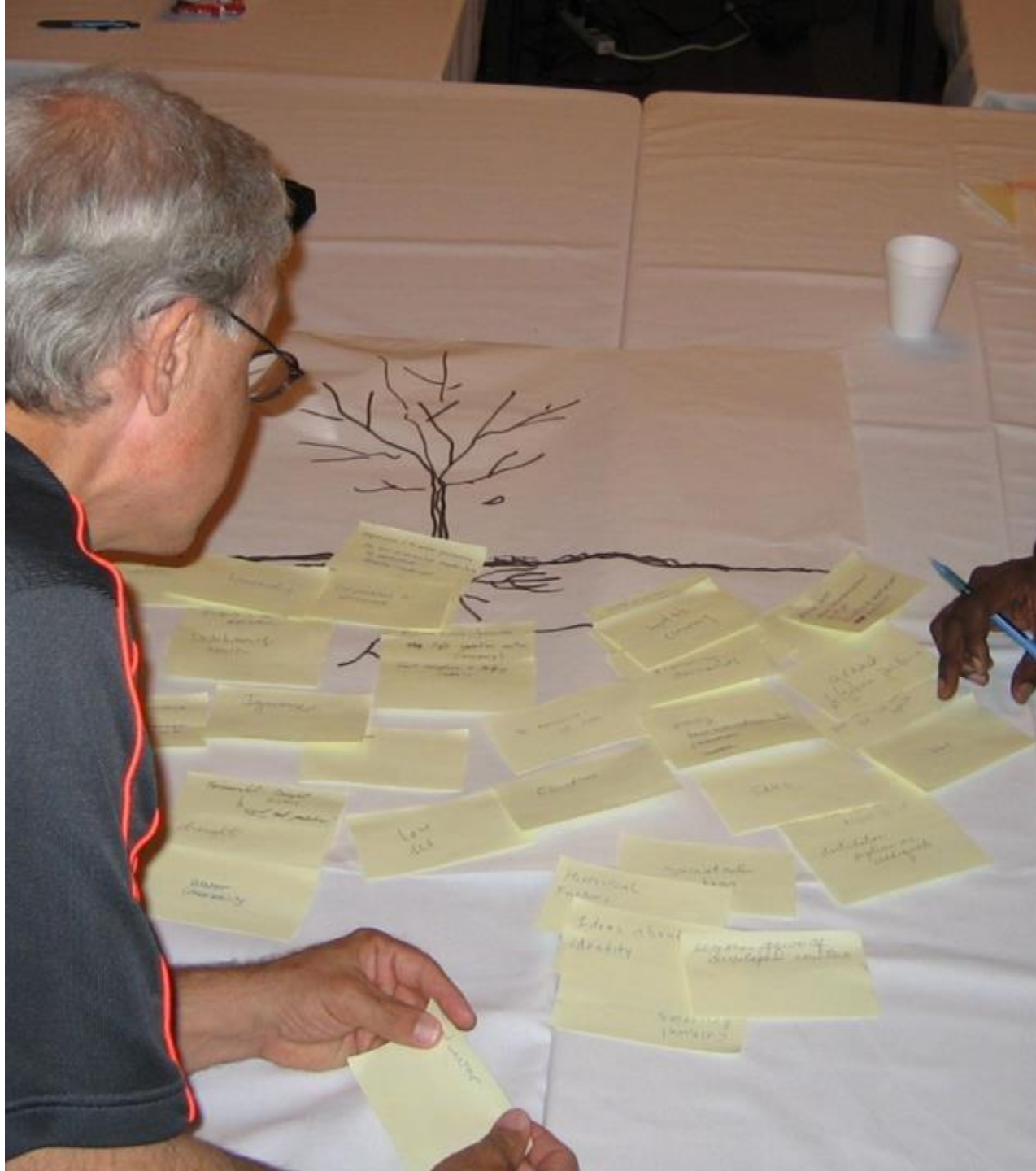


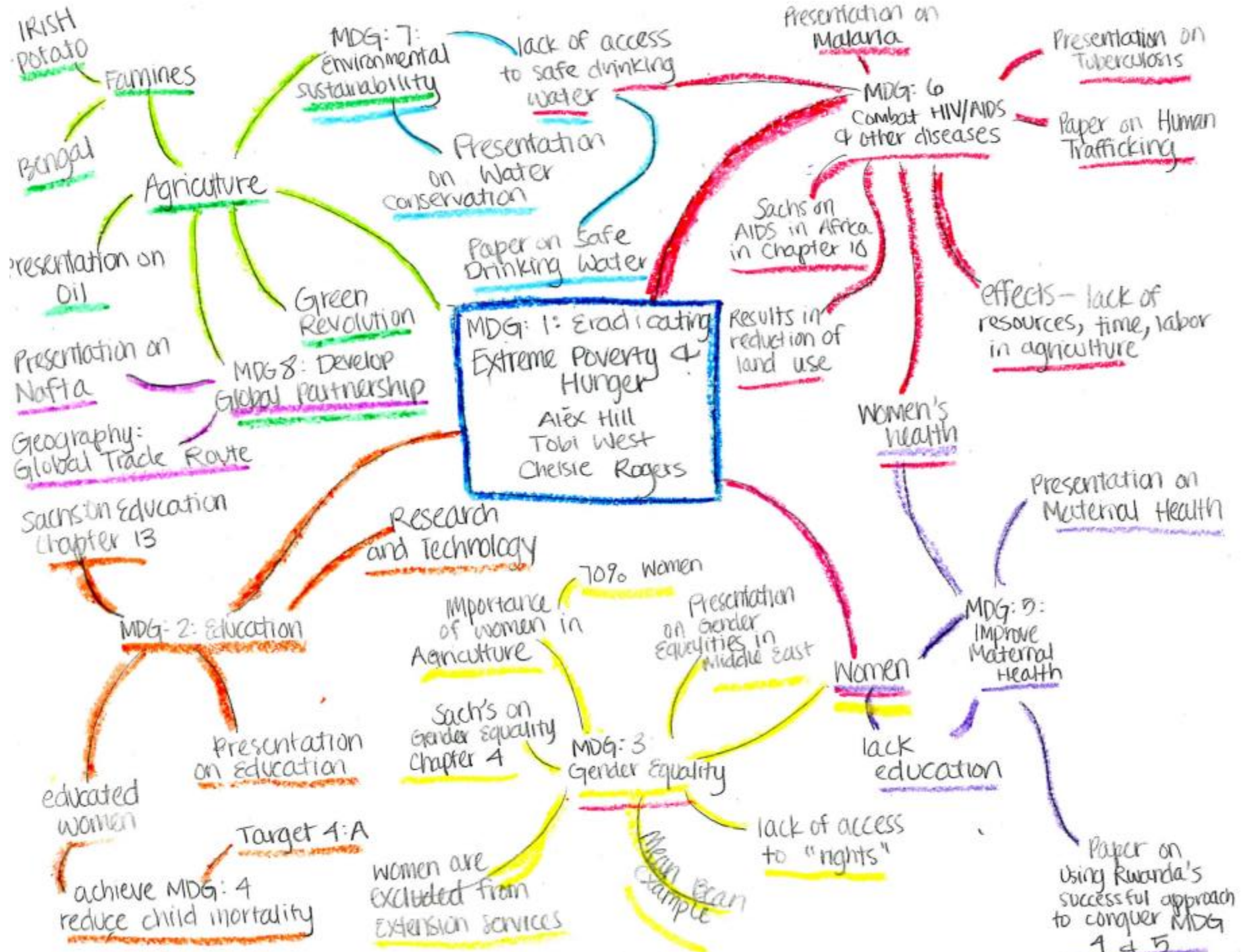


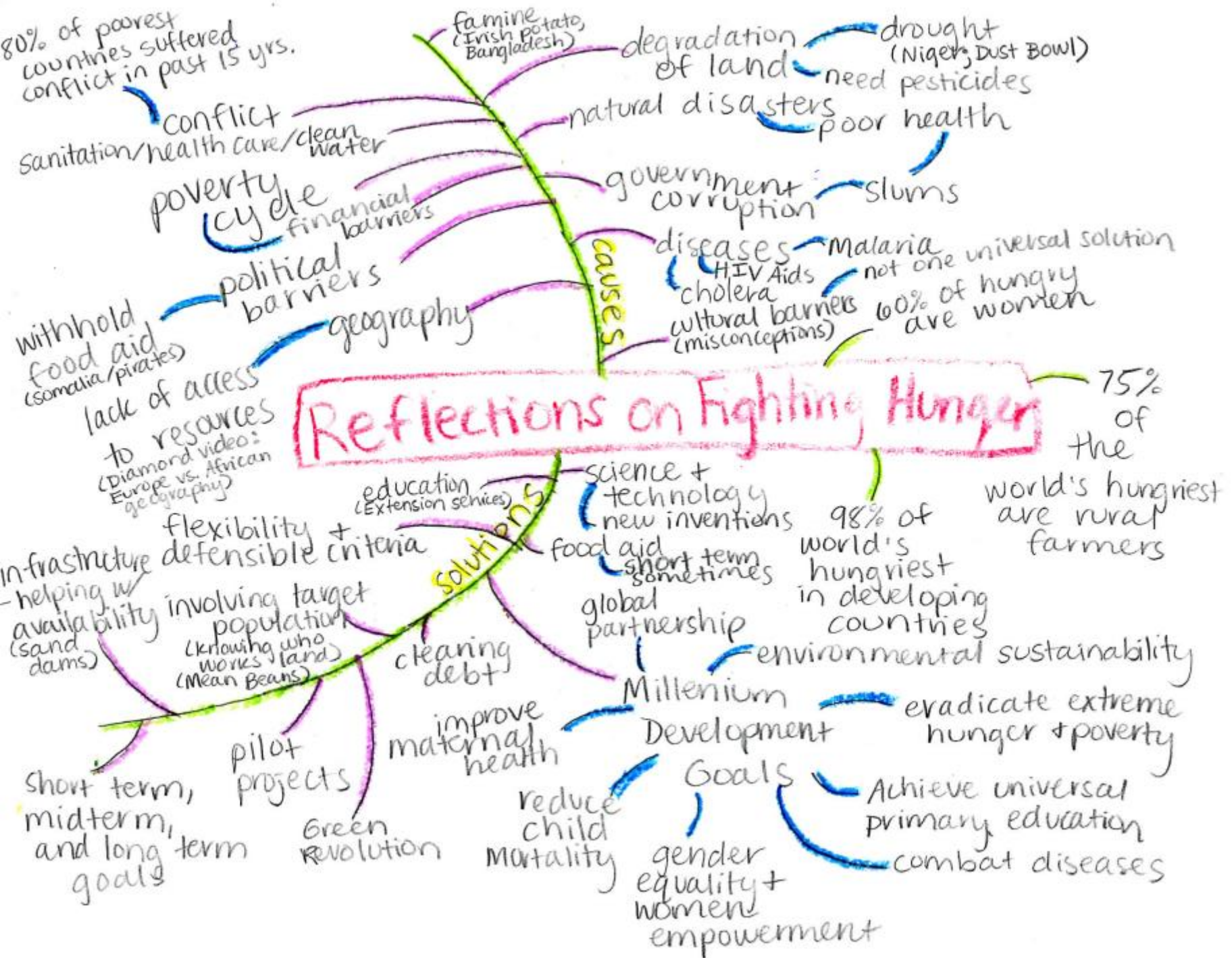
If student-centered focus

- Guide them through a visual and interdisciplinary process first
 - In class
 - Explore, plan, design, and evaluate their papers
- Ask them to connect with and bring their passion to their work- Be surprised!



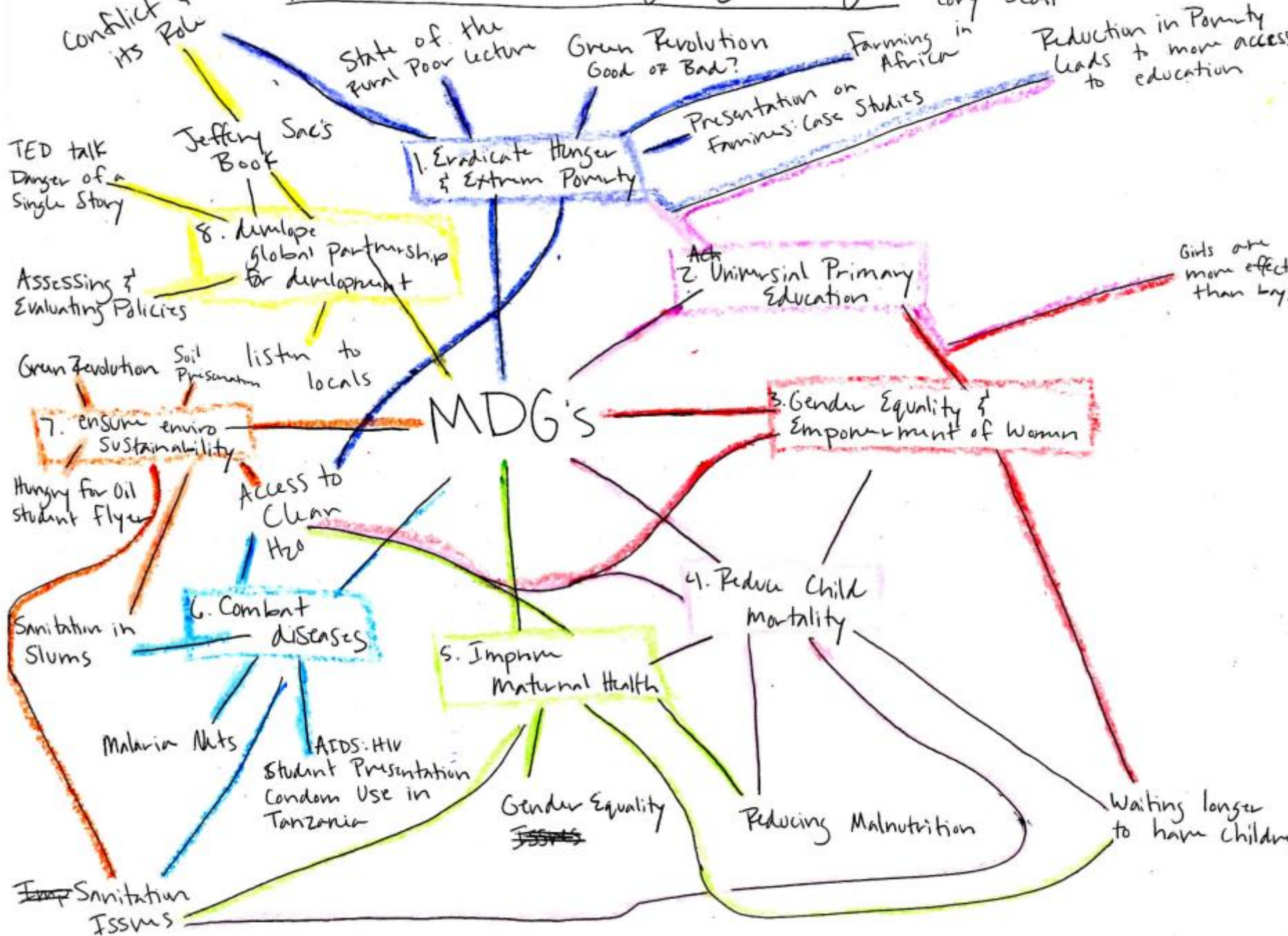






Reflections on Fighting Hunger

FRISTYN
Michael
Cory
Stogher
Percock
Scott



eradicate extreme hunger and poverty
 solution: Sustainability!

drought, war, war, war
 cultivation decreases food
 caused by 1st Bengal Famine

blight, political negligence, export despite & supply caused by
 Irish Potato famine

achieve universal primary education

Goals 2-6 may be improved with adequate access to resources.

Show the need encourage interest

sand dam project

need access!

promote gender equality and empower women

Urban ag impacts women mostly

"mean beans"

reduce child mortality

learn from previous plans and mistakes

know the region's culture

improve maternal health

address the right people

combat HIV, malaria, disease

Influences on Hunger

MDG 1

MDG 2

MDG 3

MDG 4

MDG 5

MDG 6

MDG 7

MDG 8

5 Principles for development
 Start small, but move

Diversification:

- main crops are wheat, rice, and corn.
- Only 22 crops feed the world.
- Can't afford risk of new processes

global partnership

towards

Green Revolution

evaluate at each step

sustainability (environmental)

Needs Access to Available Resources

know regional challenges

ownership

improve maternal health

address the right people

combat HIV, malaria, disease

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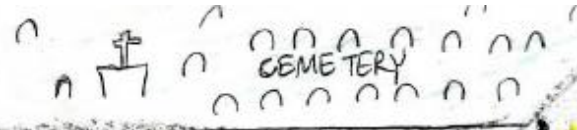
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achieve universal primary education



DISEASE STREET

ENVIRONMENTAL
DEGRADATION

RESOURCE
SCARCITY

UNSAFE



WATER

BAD AG.

LANE

GENDER ISSUE



FAMINE

CONFLICT

POVERTY

DEVELOPMENT
BRIDGE



GLOBAL PARTNERSHIP
COMBAT HIV & MALARIA

CORRUPTION

AVE

REDUCE CHILD MORTALITY

SUSTAINABILITY



ENSURE ENVIRONMENTAL SUSTAINABILITY

EDUCATION

FOOD SECURITY



UNIVERSAL PRIMARY



ERADICATE EXTREME HUNGER



BAD GOVERNANCE

HUNGER

POVERTY

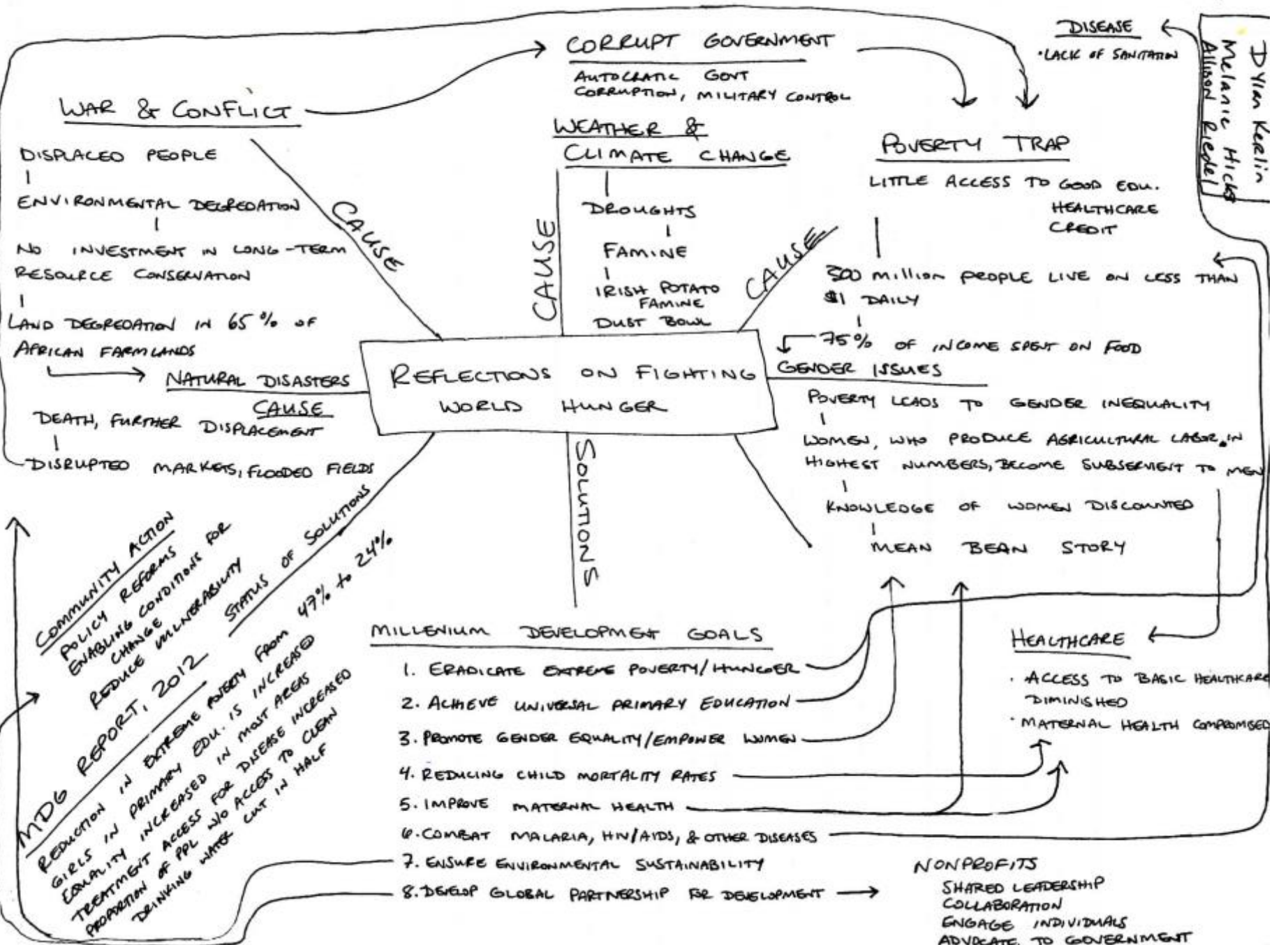


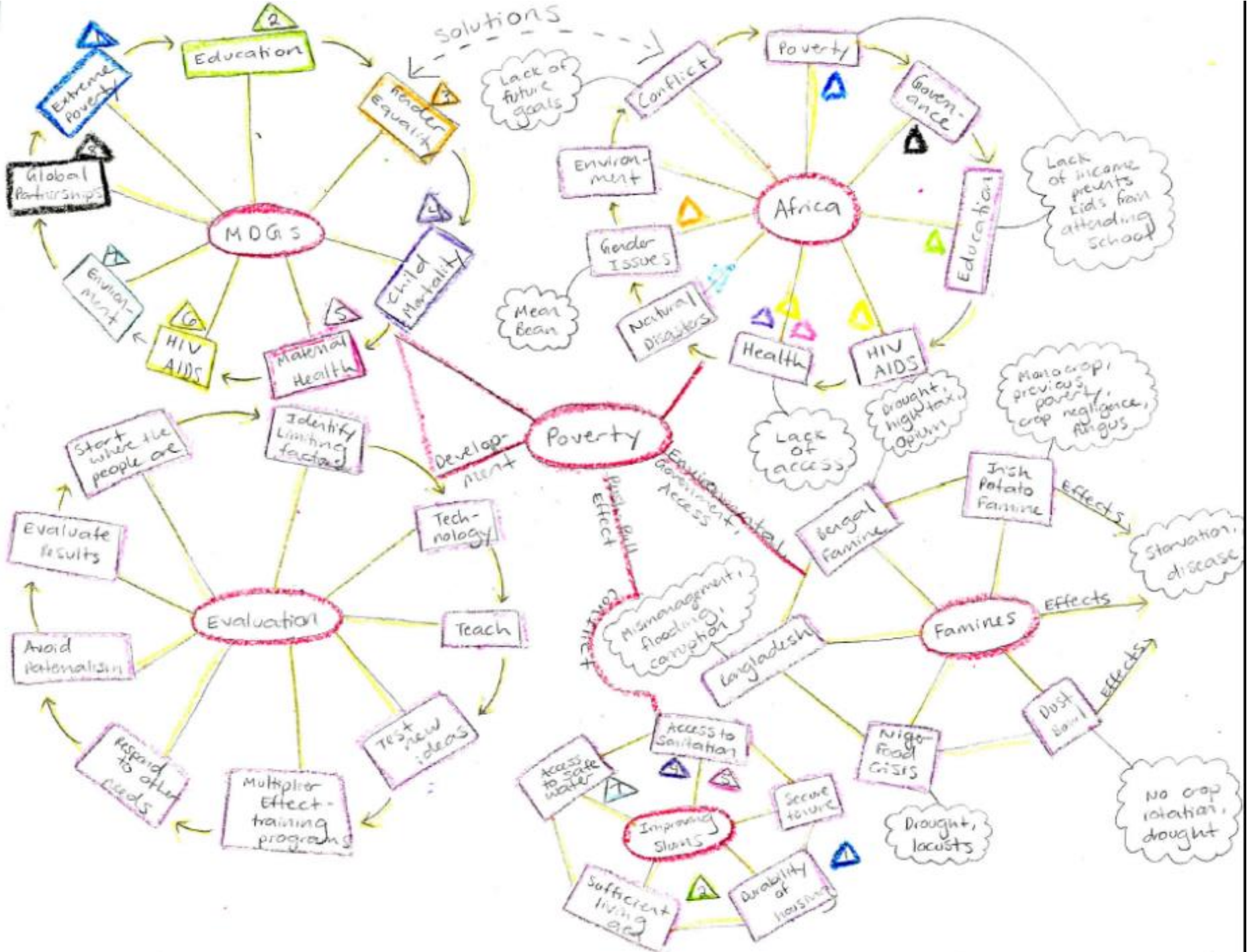
ENSURE ENVIRONMENTAL SUSTAINABILITY

HEALTH CARE

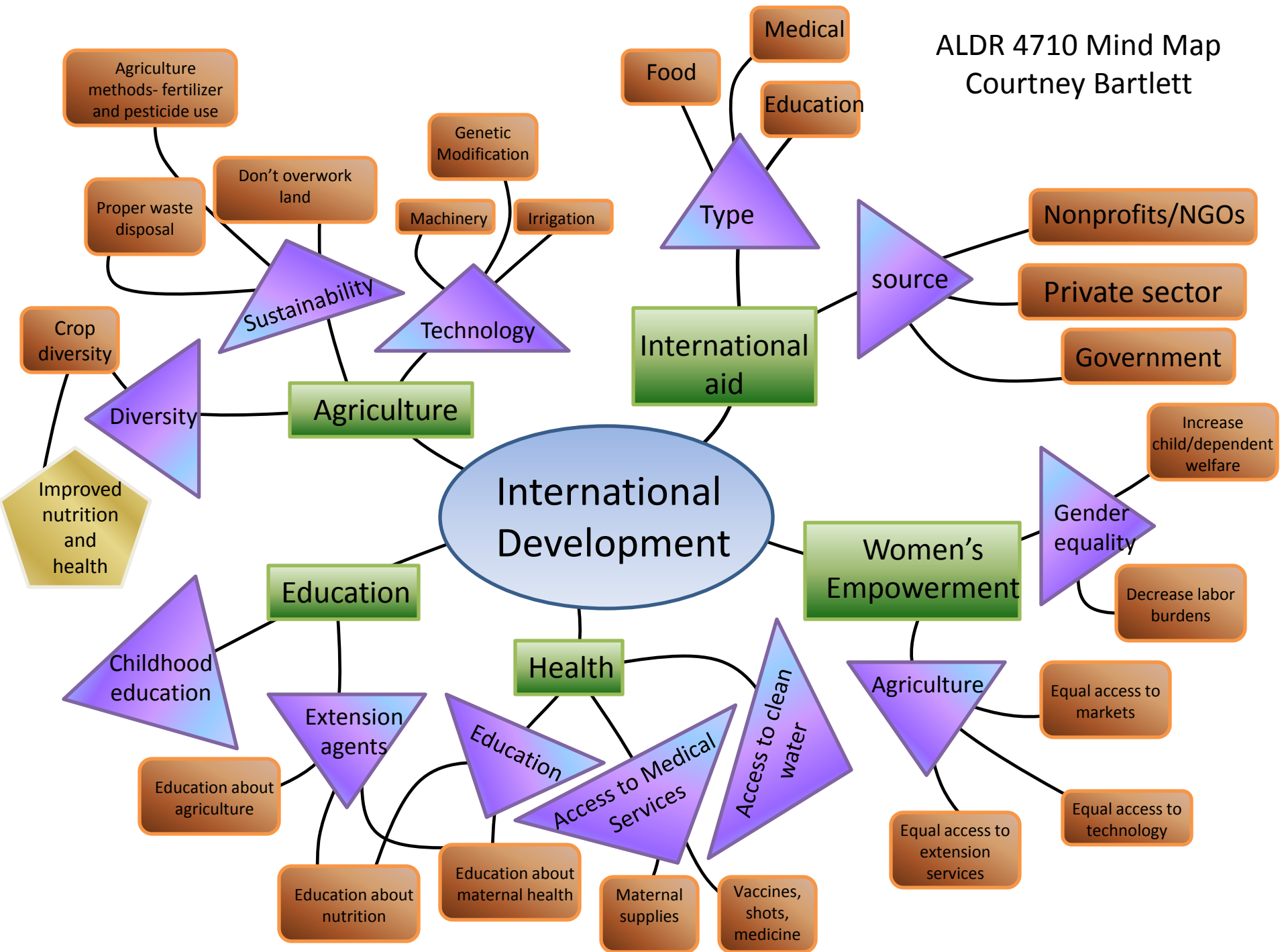


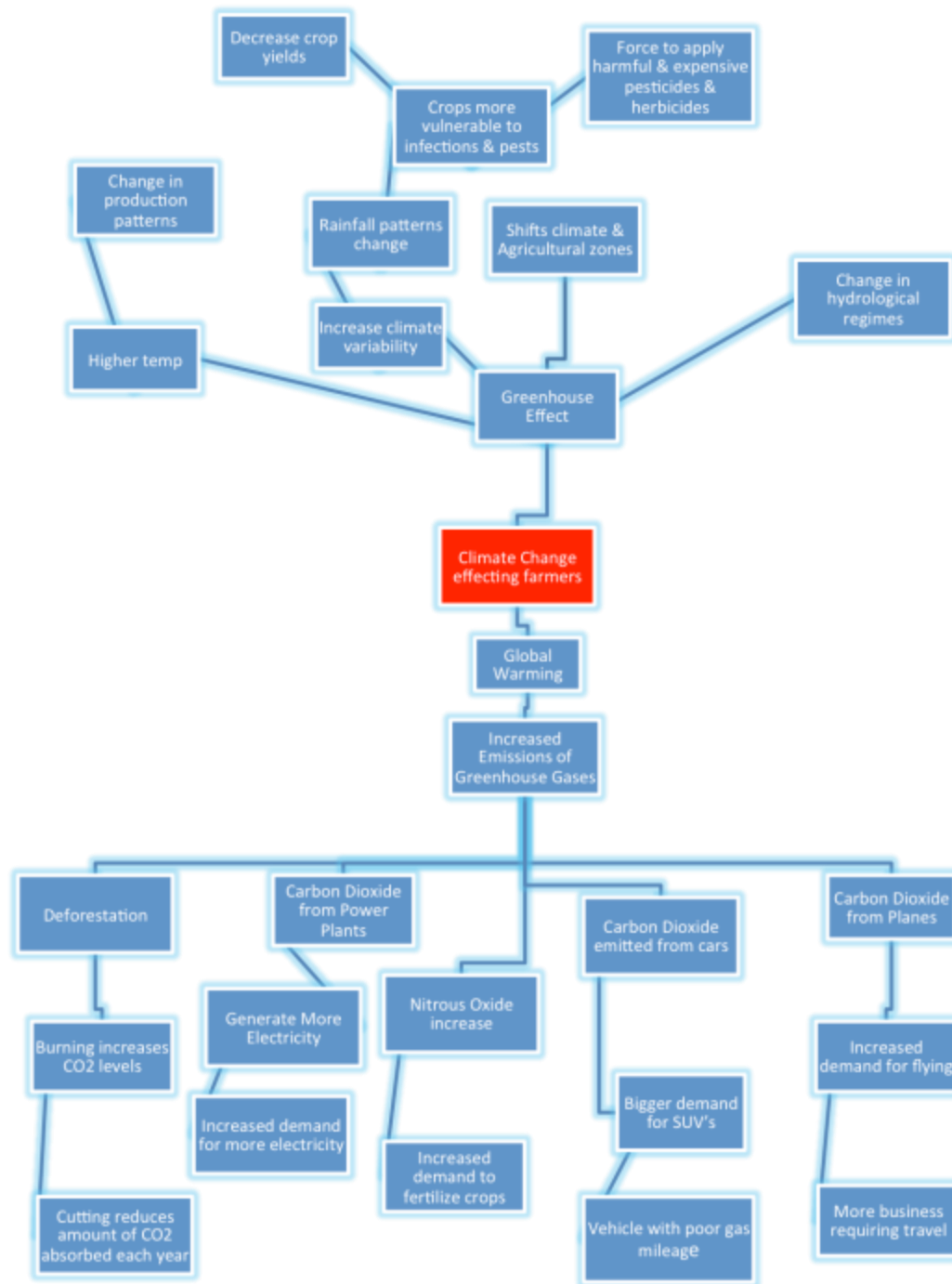
↓ ↓ ↓
 Dyan Keelin
 Melanie Hicks
 Allison Eichel

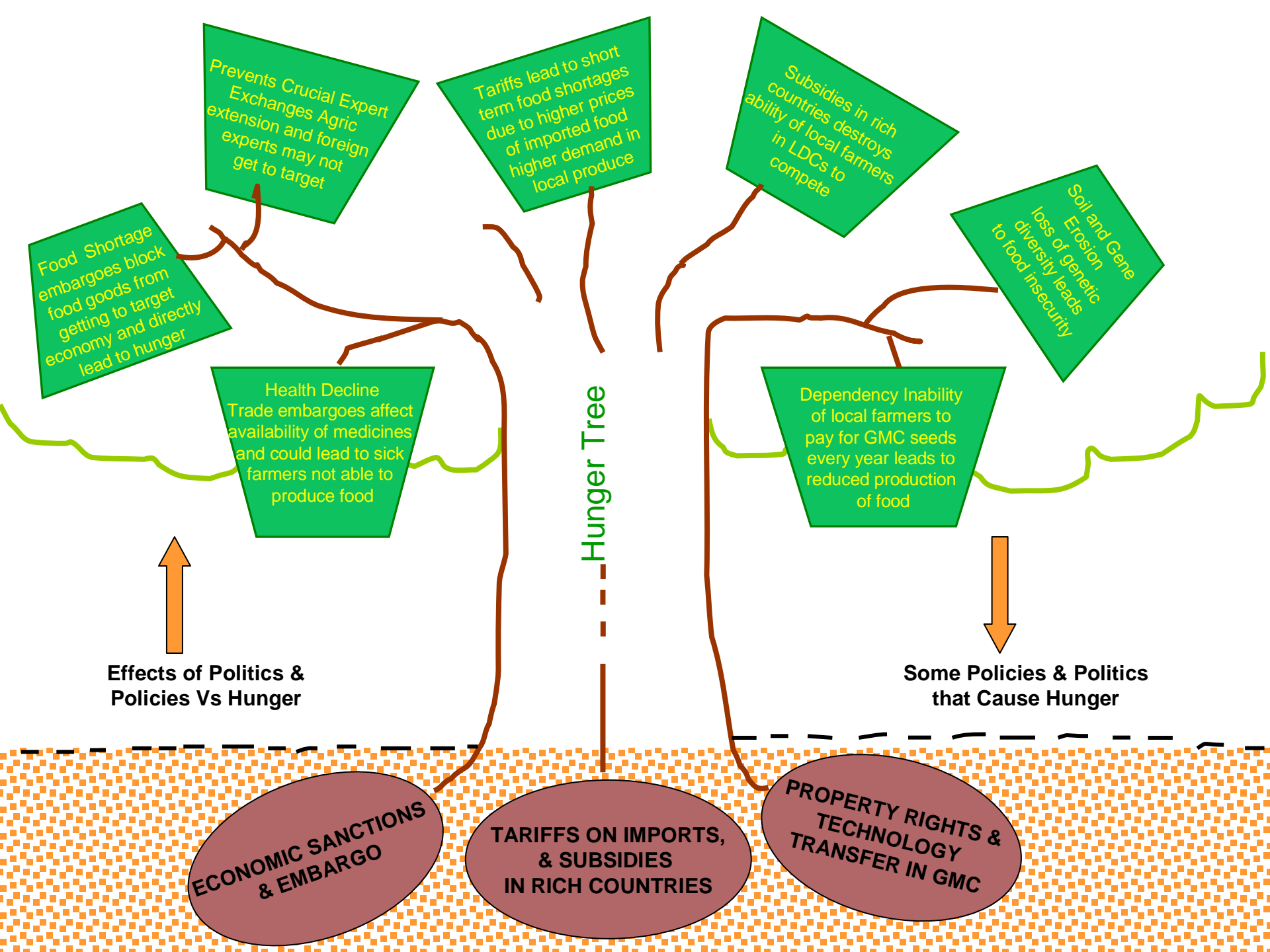


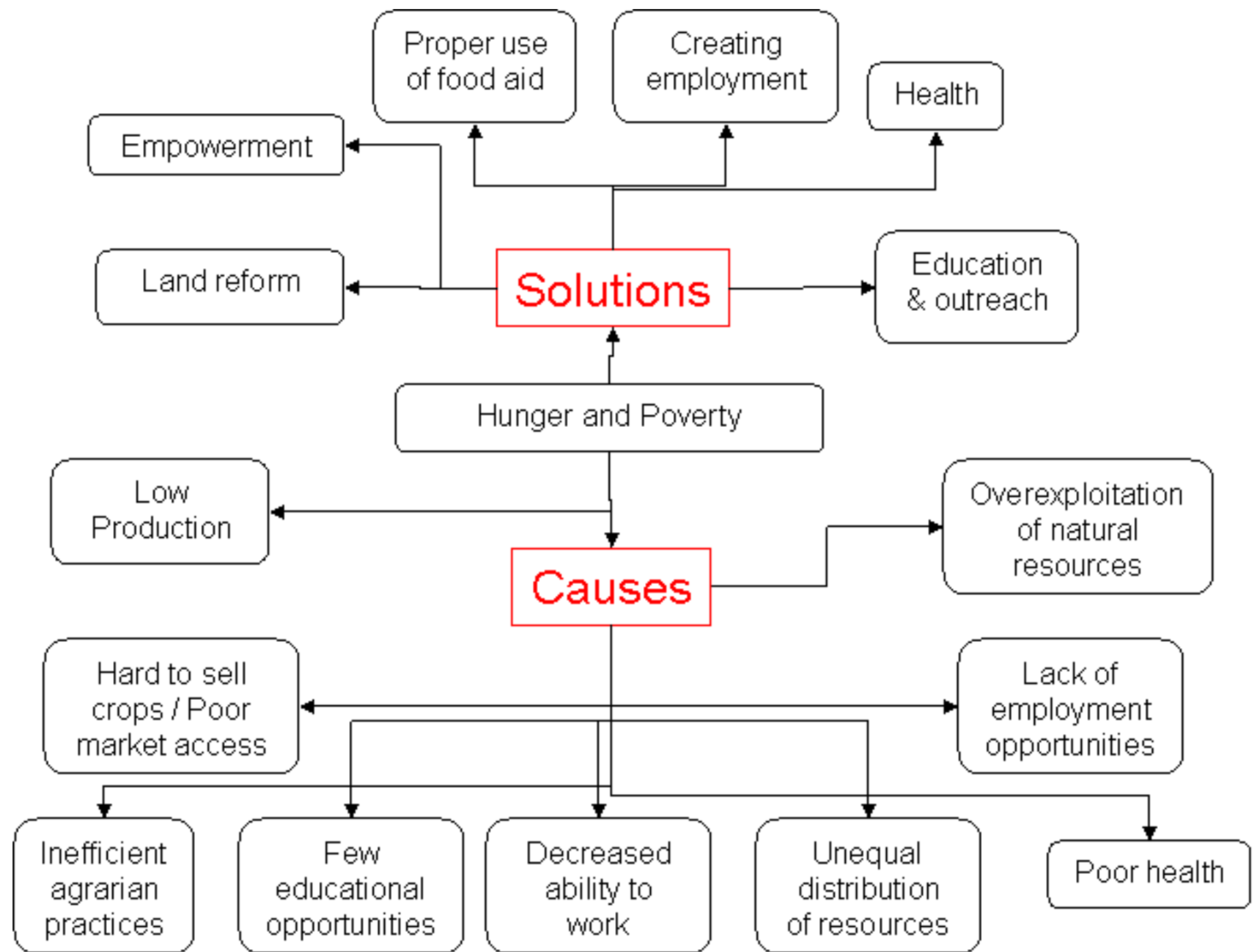


ALDR 4710 Mind Map
Courtney Bartlett

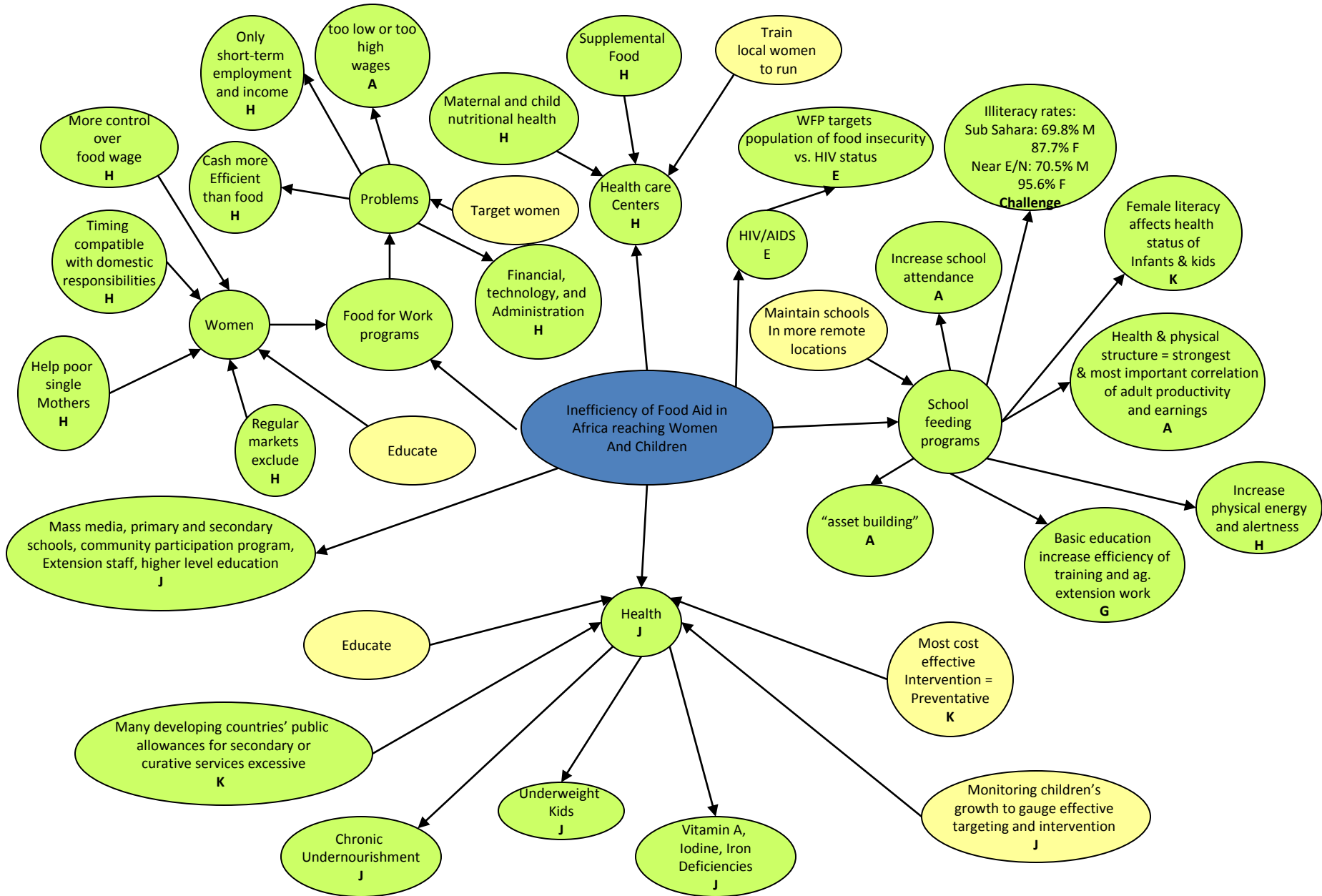


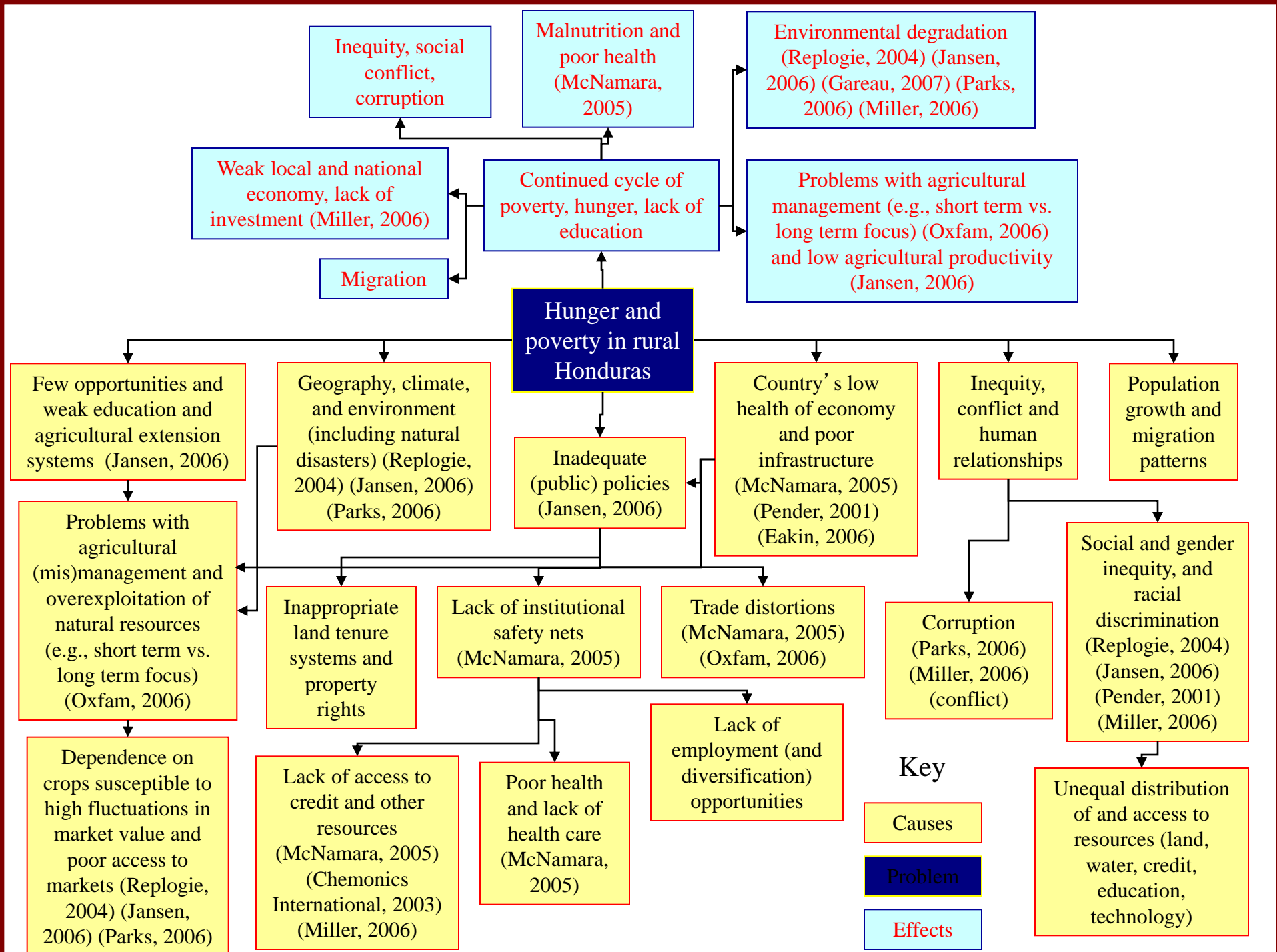






Problem tree: Current Efforts/ Effects







If student-centered focus

- Guide them through a visual and interdisciplinary process first
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COLONIAL EXTRACTION

URBAN BIASED

ELITE

DIASPORA

SUSTAINABLE
AGRICULTURE
EQUITABLE
LAND DISTRI

EXTENSION
SERVICES

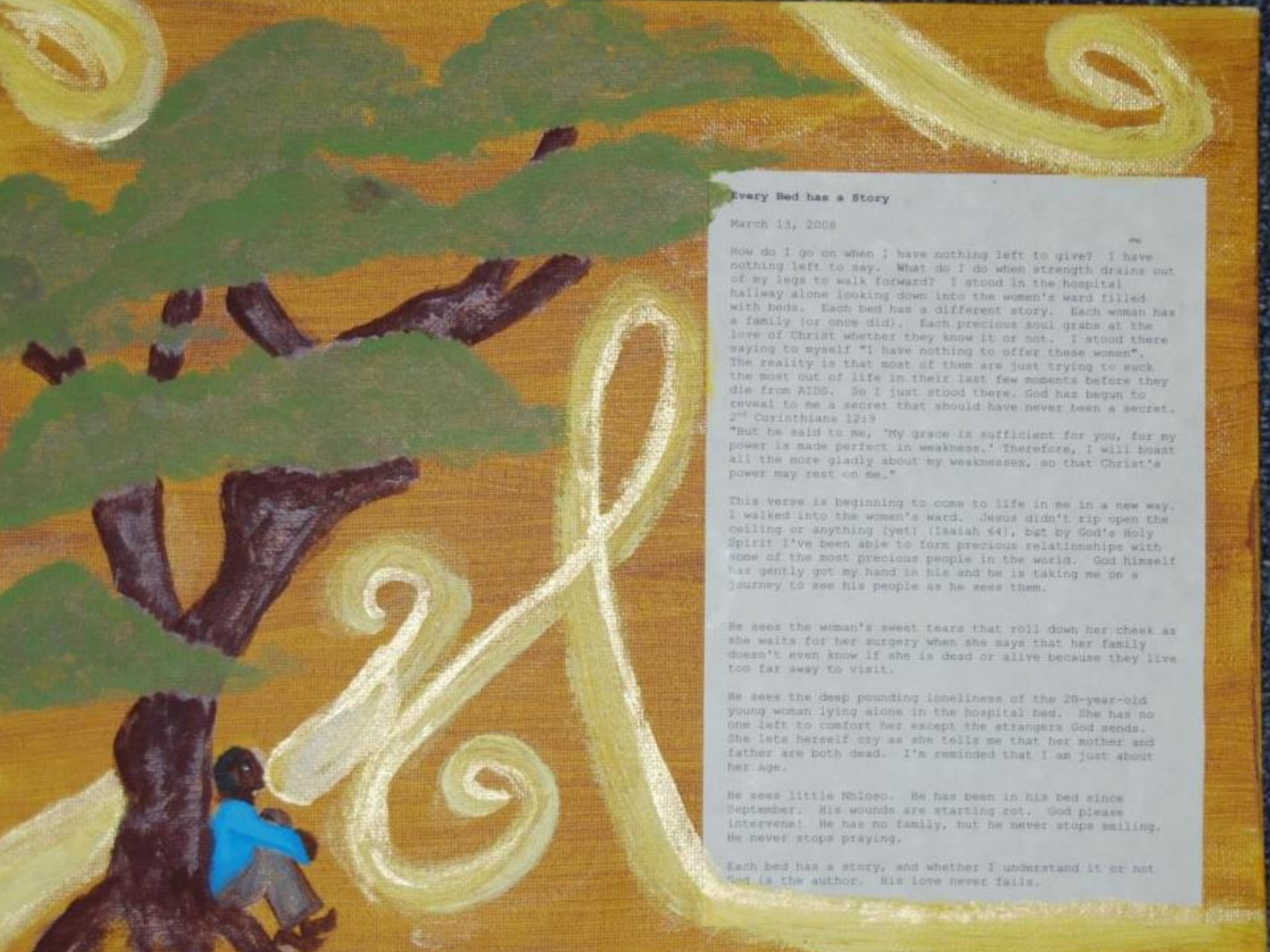
PROVISION OF BASIC
INFRASTRUCTURE
LOCAL GOVERNMENT

CONFLICT - AGRICULTURE
LOSSES

FOOD INSECURITY

AGRICULTURE

???

The background is a painting of a large, dark brown tree with green foliage. A person in a blue shirt is sitting at the base of the tree. The scene is set against a golden-brown background with yellow and white swirling patterns. A white rectangular text box is overlaid on the right side of the painting.

Every Bed has a Story

March 13, 2008

How do I go on when I have nothing left to give? I have nothing left to say. What do I do when strength drains out of my legs to walk forward? I stood in the hospital hallway alone looking down into the women's ward filled with beds. Each bed has a different story. Each woman has a family (or once did). Each precious soul grabs at the love of Christ whether they know it or not. I stood there saying to myself "I have nothing to offer these women". The reality is that most of them are just trying to suck the most out of life in their last few moments before they die from AIDS. So I just stood there. God has begun to reveal to me a secret that should have never been a secret. 2nd Corinthians 12:9

"But he said to me, 'My grace is sufficient for you, for my power is made perfect in weakness.' Therefore, I will boast all the more gladly about my weaknesses, so that Christ's power may rest on me."

This verse is beginning to come to life in me in a new way. I walked into the women's ward. Jesus didn't rip open the ceiling or anything (yet) (Isaiah 64), but by God's Holy Spirit I've been able to form precious relationships with some of the most precious people in the world. God himself has gently got my hand in his and he is taking me on a journey to see his people as he sees them.

He sees the woman's sweet tears that roll down her cheek as she waits for her surgery when she says that her family doesn't even know if she is dead or alive because they live too far away to visit.

He sees the deep pounding loneliness of the 20-year-old young woman lying alone in the hospital bed. She has no one left to comfort her except the strangers God sends. She lets herself cry as she tells me that her mother and father are both dead. I'm reminded that I am just about her age.

He sees little Nthooop. He has been in his bed since September. His wounds are starting rot. God please intervene! He has no family, but he never stops smiling. He never stops praying.

Each bed has a story, and whether I understand it or not God is the author. His love never fails.

Child Labor



Child Labor Defined:
 The International Labour Organization and The United Nations Convention on Rights of the Child define child labor as work performed by a child which is likely to harm the child's intellectual, emotional, and physical development.



Jeopardizing the physical, mental, or moral well-being of a child can occur through:

- trafficking
- slavery
- involvement in armed conflict
- prostitution
- pornography
- other forms of illicit activities

Groups of children that are particularly at risk:

- indigenous, tribal, or minority children
- children previously engaged in armed conflict
- children referred to work by UNHCR
- street and migrant children
- street children
- children living in the poorest communities

However, the vast majority of child laborers work in the agricultural sector, many on family farms. These children face numerous dangers, namely:

- pesticide contamination
- repetitive stress injuries and musculoskeletal disorders
- heavy farm house equipment
- extreme physical strain

still prevalent...

Although they may receive short term gains, children who work instead of going to school are not likely to have access to the developing economy and will be marginalized. They are more likely to choose work over school for their own children, and the cycle of poverty will continue.



Lack of food, political instability, and low commodity prices are all factors that have been shown to increase the occurrence of child labor in a region.



...but increasingly preventable



Fair trade labeling campaigns are a form of ethical branding and have become popular as a tool for combating child labor as well as addressing other social and environmental concerns.



Semi-ethical are the target consumers for fair-trade products in wealthier nations. In addition to creating stable prices and local economies in the producer regions, fair trade initiatives also strive to raise awareness among this group of consumers.



Fairly traded goods generally have a component that addresses gender equity. Research has shown that when women have discretionary income, children are sent to school and not to work.



These children attend school and work in the fields after school, an acceptable compromise that allows for economic gain while ensuring a future. Allowing enough time for rest and study are further concerns.



Country	Child Laborers (Millions)
India	12.5
China	10.5
USA	0.5
UK	0.2
Germany	0.1
France	0.1
Japan	0.1
South Korea	0.1
Italy	0.1
Spain	0.1
Canada	0.1
Australia	0.1
Brazil	0.1
Argentina	0.1
Colombia	0.1
Venezuela	0.1
Peru	0.1
Ecuador	0.1
Bolivia	0.1
Paraguay	0.1
Uruguay	0.1
Chile	0.1
Costa Rica	0.1
Panama	0.1
Dominican Republic	0.1
Honduras	0.1
Nicaragua	0.1
Guatemala	0.1
El Salvador	0.1
Haiti	0.1
Jamaica	0.1
Cuba	0.1
Trinidad and Tobago	0.1
Suriname	0.1
Guyana	0.1
Belize	0.1
Mexico	0.1
Central America	0.1
Caribbean	0.1
South America	0.1
Latin America	0.1
World	0.1



Eliminate
Extreme
Hunger and
Poverty

Reduce
Child
Mortality

Quality
Education

Good
Health
and
Well-being

Empower
Women
Promote
Gender
Equality

Improve
Internal
Health

Develop a
Global
Partnership
for
Development

Knowledge

Governance

Cooperation

Education

Access



Agriculture for the Children



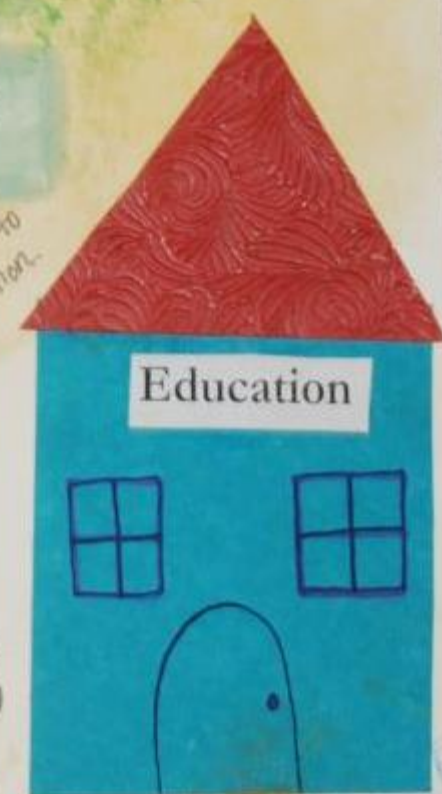
Millennium Development Goals

Opportunity

For Women Through Sustainability
Advancement of Mankind

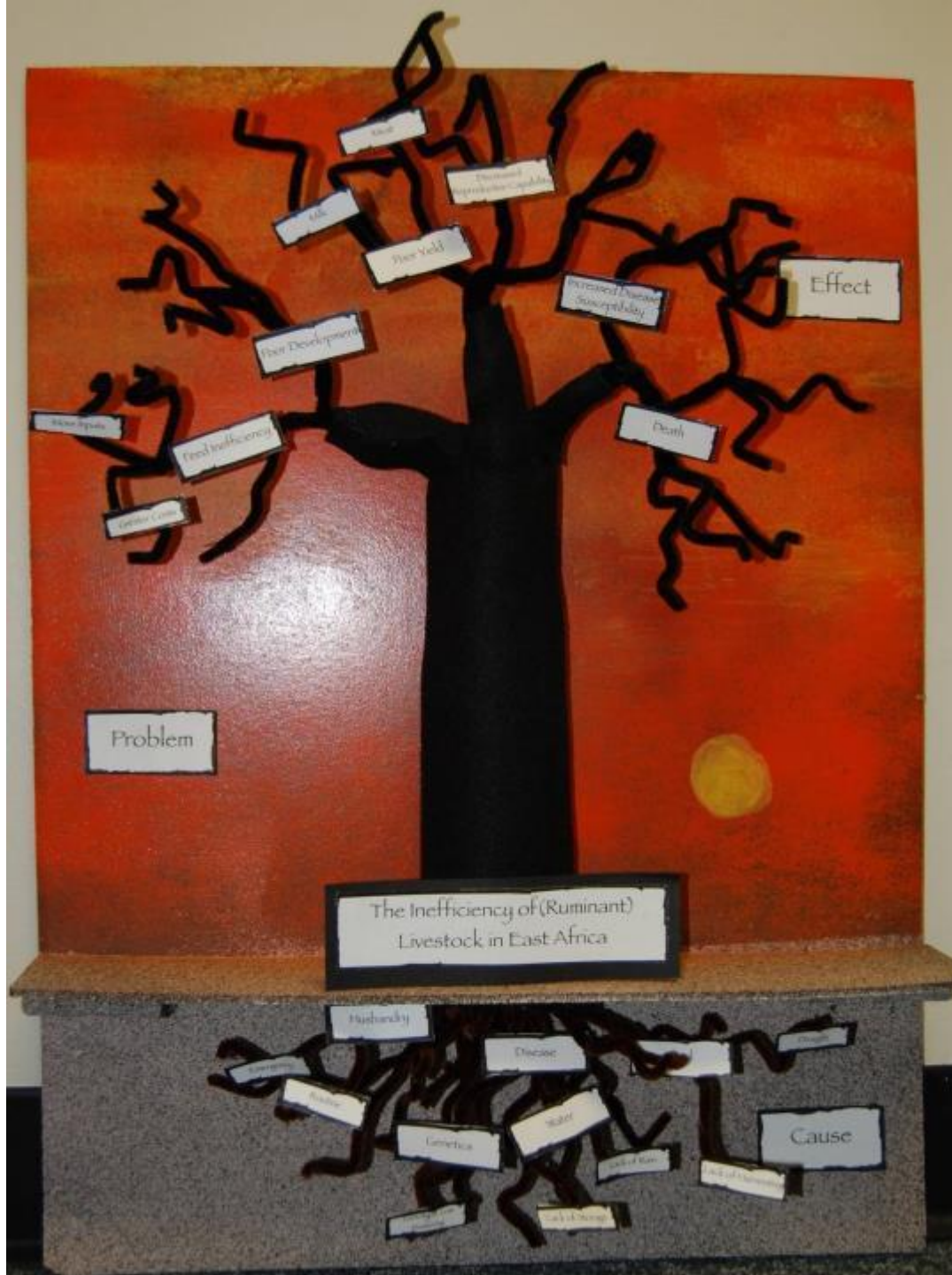


Gender equality



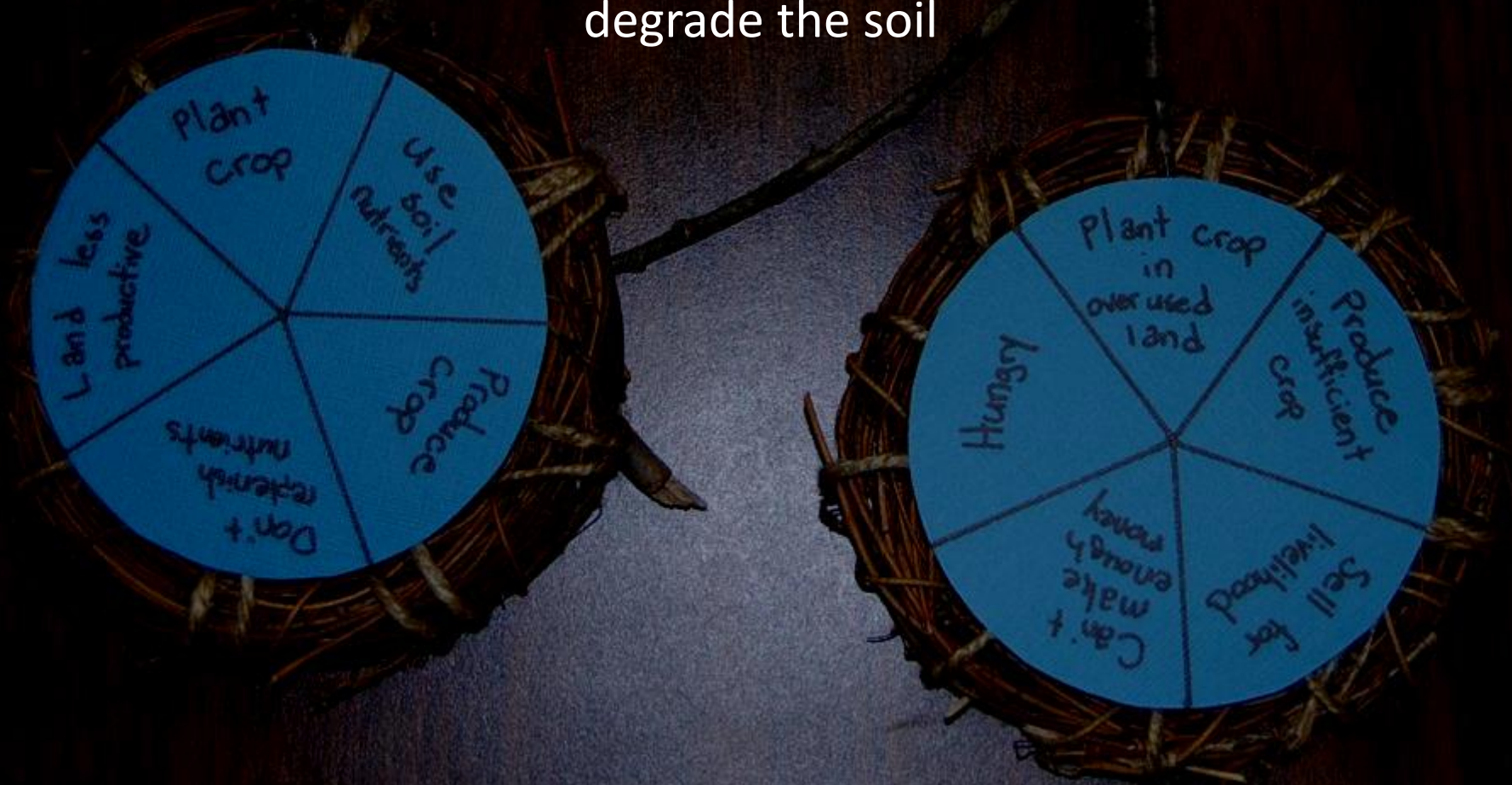
I then drew a hand that spins the globe with a simple flick of a finger. This shows how easy it can be for the human touch, through policy making, to change the landscape of biodiversity.



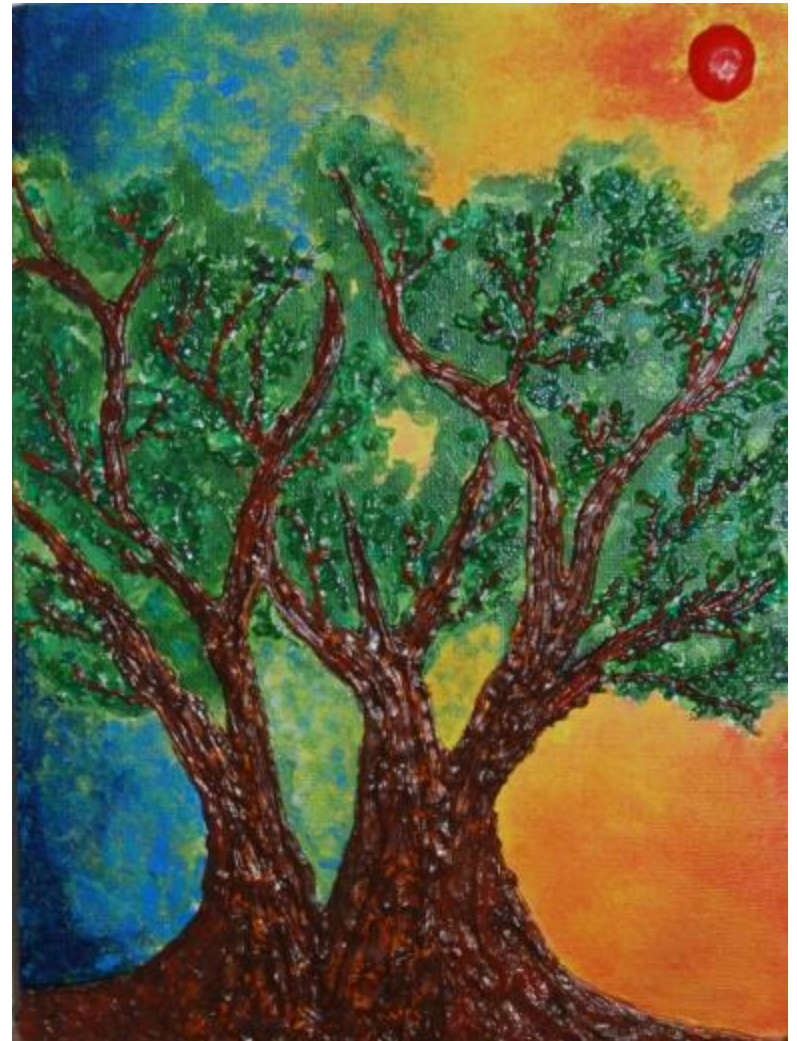




The bicycle represents the cycle of poverty. The back wheel shows the cycle of land degradation. The front wheel represents the actions of a poor farmer. While each cycle is separate, they are undoubtedly connected. As on a bicycle, each wheel propels the other. As the farmer's actions become more desperate, so does the impact on the soil, and as the soil becomes more degraded, the farmers further degrade the soil



My example: Two different stories of development









JERZEES

2005

govt

INTERACTION
WITH THE EARTH



VIABILITY-VIABILITY-VIABILITY-VIABILITY

foreign aid

policies

inflation

history

sociology

change

MOVEMENT

APPROACH TO

FIGHTING HUNGER

WITH KNOWLEDGE

OF PATTERNS,

RELATIONSHIPS,

THE EARTH

AND THE PEOPLE

LIVING IN IT



foreign investment technology

anthropology policy

sustainability

environmental impact

law mind economy

custom corruption

medical care

pollution culture

population density

agriculture literacy

economics politics

imports

inflation

body malnutrition

production civility

Decision

press

economics

politics

GOVERN A PEOPLE - GOVERN A PEOPLE



law

PEOPLE'S GOVERNMENT - PEOPLE'S GOVERN

systems

language

culture

society

gender

sex

understanding

education

work

literacy

family

work money family democracy
PRIDE SHARE ownership job PAID

KIDS FOOD WATER HOME DIV/103
FARM WORK SCHOOL CARE ONE GREAT



growth

control

population density

exponential

resources

distribution

education

lik





climatology

environmental impact

agriculture

stability

biology

ecology

science



RECIPE

Solution Salad

INGREDIENTS

- | | | |
|----------|-----------------------------|----------|
| LETTUCE | MONEY | \$ |
| TOMATO | CULTURE & RELIGION | 🇩🇪 🇮🇹 🇯🇵 |
| ONION | KNOWLEDGE | 💡 |
| CARROT | CREDIBILITY & OBSERVABILITY | 👁️ |
| DRESSING | WOMEN & CHILDREN | 👩 👧 |
| TOOLS | COMMUNICATION & COOPERATION | |
| BOWL | NEEDS ASSESMENT | |

DIRECTIONS

1. Wash the lettuce and onions.

WARNING: Always wash your hands and use clean tools.

2. Wash the tomato.

3. Wash the carrot.

4. Wash the dressing and the bowl.

MIX the salad ingredients.

Necessity Makes the Best Recipe









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