Stuart Chapters 4 and 5

possible solutions to environmental conditions

1

1

Diana Stuart
Environmental Sociology

Chapter 4:

Identifying Solutions

2

2

Stuart Chapters 4 and 5 presents possible solutions to environmental conditions

Who/what have the potential to help solve the environmental problems?

Individuals
Industry
Governments

Should it be the responsibility of individuals to actively identify and minimize their environmental impacts?

3

3

Stuart asks: If all three participate (Individuals, Industry, Governments) will this be enough to solve the environmental impacts?

Or, must there be more fundamental, structural change. If the latter, what might this look like?

4

4

What can environmental sociologists do to help?

1. Collect data and measure the impacts these groups are currently having and compare this to what climatologist and other scientists report is needed to solve the problem.
2. Analyzing data to determine which solutions being tried appear to be most promising. And, what new untried ideas appear promising

5

5

Stuart states that we must be clear on the causes of the problem in order to identify solutions.

What would you guess Stuart believes are the two primary causes of environmental problems (EPs)?

(hint: what factors were included in Hannigan's formula)

Stuart includes:
population and affluence

6

6

Stuart argues that: if the causes for EPs are population and affluence then we must find solutions for these.
My question is:

Are population and affluence the fundamental causes of EPs?

If not, what are the fundamental causes?

7

7

Climate crisis: CO2, methane, water vapor

Env. Pollution: toxic chemicals, plastics, etc.

Should we be addressing these rather than the intermediate causes (population and affluence)?

8

8

If we believe population and affluence must be addressed, as Stuart suggests, then we must find solutions for these.

What would be some tactics for solving these causes of EPs?

9

9

1. Social/economic structural changes that de-emphasizes growth (GDP), i.e., producing and buying less
2. Population control to reduce population growth
3. Emphasize "General (Genuine) Progress Indicators; de-emphasize GDP

10

10

4. Ecological modernization supports "green growth."

What might this be?

Finding the right technologies and adjustments to the capitalist system that will allow for a reduction in our EPs without major changes in society's structure.

What are some current and potential future technologies that might provide energy sources without the accompanying CO^2?

11

11

If the solution is structural change, what structural changes will be needed?

1. Slow down the treadmill of production
2. Reduce the associated material and energy use

How can this be done?

12

12

Major changes to how we live:

- may have to redesign cities to reduce suburbs;
- reduce use of vehicles and other means of travel
- Reduce the production of things so we value austerity
- Change what we eat

13

13

Who/what will be against such change?

Individuals? Industry? Government?

What is neo-liberalism and how is it related?

Promotes individual liberties and eschews government intervention.

14

14

Stuart suggests using the General (Genuine) Progress Indicator (GPI).

Or the Gross National Happiness Indicator (GNHI)

What is the GPI?
What might it measure?

15

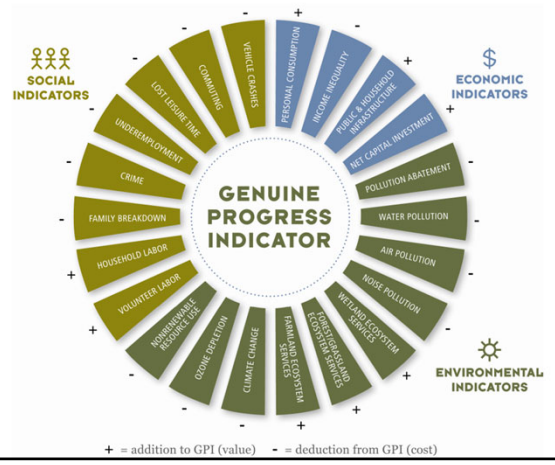
15

The Genuine Progress Indicator measures:

1. economic activity that diminishes both natural and social capital.
2. sustainable economic welfare rather than economic activity alone.

16

16



17

What about the Gross National (Domestic) Happiness Indicator (GNHI)?

It was developed by His Majesty the Fourth King of Bhutan, Jigme Singye Wangchuck in the 1970s.

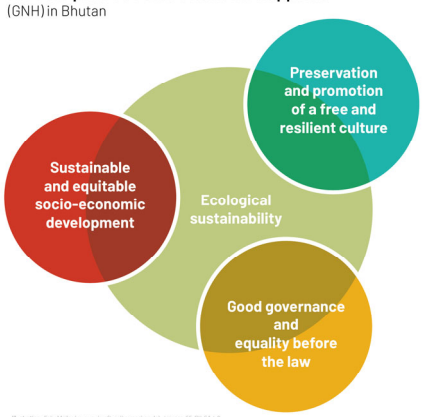
What would you guess it might measure?

.

18

18

The four pillars of Gross National Happines (GNH) in Bhutan



19

19

Revisiting what individuals can do to help reduce EPs.
Stuart reports that households are contributing 7% of CO^2 and could reduce this by 25% if they used "green consumption."

What is "green consumption?"

List some things individuals can do that will reduce EPs.

20

20

- Energy-efficient appliances
- Weatherizing homes
- Reducing energy use
- Solar panels,
- electric cars
- Using public transportation
- Bikes
- Reducing consumption, travel, and home size
- Organic foods (no pesticides or herbicides)

21

21

What is the difference between practicing "green consumption" and reducing overall consumption?

Which would be most impactful?

Which is more likely to happen ☺

22

22

Ulrich Beck in *Risk Society* discusses individual "reflexivity."
Any idea what this refers to?

If overconsumption is increasing environmental risk, then re-structuring society away from growth would be a reflexive response.

Or, less dramatic, what individuals can do to understand, assess, minimize and avoid environmental risks (e.g. toxins in toothpaste, foods, shampoo).

23

23

Related to this is the concept of "precautionary consumption."

What might this be?

Individuals and groups are responsible for risk reduction or being cautionary. Consumers take on the responsibility for learning about the products and possible risks (e.g., toxins).

24

24

Stuart suggests precautionary consumption can be practiced by an individual or a group but in the U.S. it tends to rest on the shoulders of women and mothers in particular (research done by MacKendrick).

Do you agree?

What about precautionary consumption by governments. What can they do to reduce the use of toxins?

25

25

In Europe the governments practice a strict precautionary consumption approach by testing new products before they go on the market.

In the U.S. The Food and Drug Administration (FDA) is responsible for protecting the public health by assuring the safety of biological products, food supply, etc. However, Stuart reports that products are often allowed to be sold until they are found to be dangerous.

26

26

According to the U.S. Food and Drug Administration, not all products undergo premarket approval — that is, a review of safety, quality, and effectiveness by FDA experts prior to approval of a product being sold to consumers.

Thus, the FDA's enforcement efforts focus on products after they are already for sale, questioning their "precautionary" approach.

27

27

What factors inhibit individuals from doing things to help reduce EPs?

28

28

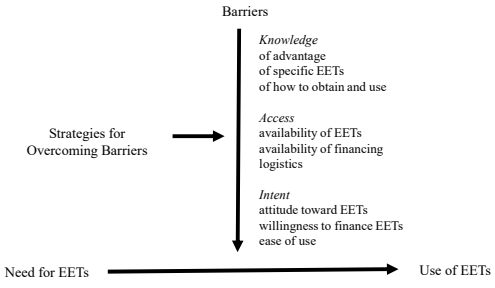


Figure 2: Conceptual Framework Displaying Barriers to the Use of Energy Efficient Technologies (EETs) Throughout the Life Cycle of Buildings

29

Why do environmentalists not want to rely on individuals to solve EPs (beyond the fact it wouldn't be enough)?

1. Focusing on the individual would take attention away from the industries producing the majority of the EPs.
2. Individuals might believe their actions are enough and not push for climate policies to address majority of emissions.
3. Believe behavioral change is not enough. (estimates are that indivs. could only reduce CO^2 by 19 – 26% leaving roughly 75% uncontrolled).

30

30

Ecological modernization is another name for the view that society can reduce our EPs through the use of science, technology, markets, and policy reforms (rather than major structure change)

It explicitly proposes that we can support economic growth while successfully addressing our EPs.

What are some existing technologies that are helping to reduce climate change (name at least 5)?

What are some possible future technologies (think out-of-the-box ideas)?

31

31

Current Technologies

1. Wind energy
2. Solar energy
3. Nuclear energy
4. Geothermal
5. Hydrogen

Future Technologies

1. Reflecting solar energy back into space
2. Sucking CO2 out of the atmosphere
3. Discovering new clean energy sources/solutions

32

32

Green growth is similar to the term "ecological modernization" but provides a slightly different way of looking at the same belief.

It proposes that economic growth and environmental impacts can be "de-coupled" so that growth may continue without EPs.

A "greening" of the system where growth continues but pollution does not.

33

33

If "de-coupling" were possible, the current political and economic social order (i.e. social structure) would not need to change to address EPs.

Instead, science and technology would be applied to the EPs.

34

34

How is ecological modernization different from a reflective response (also called reflective modernization)?

35

35

Reflective modernization is more of a bottoms up approach, where people and social movements reflect on (or respond to) the EPs and act to reduce them.

Ecological modernization (EM) is more of a top-down, state-led approach.

36

36

Environmentalists, who believe we need a more "drastic" approach to solving the EPs (i.e. social structural changes), point out a variety of reasons why applying ecological modernization or green consumption or green growth won't work.

What reasons might they give?

37

37

1. The theory may be appealing to many. However, if it does not hold true, it will have drawn attention and resources away from other less appealing but perhaps more likely solutions.
2. Some research suggests that renewable energy sources will not be enough to solve the EPs, e.g., we can't produce enough windmills/solar panels.

38

38

3. Some research suggests that improved energy efficiency can reduce oil based use for a specific product but simultaneously it encourages more consumption and subsequent use of energy
4. EM relies on technological optimism or faith in the ability of technology to solve EPs
5. There is no clear evidence that it is possible to "de-couple" economic growth from carbon emissions.

39

39

6. Those who benefit from the current social structure will encourage "green growth" and use the EM theory to dispel the need for major structural changes.
7. By the time society recognizes the absolute need to reduce global warming, the environment will be terribly harmed.

40

40

So far, we have been focusing on a variety of ways that some environmentalists believe we should address our EPs WITHOUT making "drastic" change.

Those who believe more drastic change is needed have presented a "theory of structural change." What would you guess this proposes?

41

41

A theory of structural change

This "theory" proposes that structural changes to society could be made with the result being less overall production of things (e.g., industries producing less) and, in turn, less CO^2 being released into the atmosphere and subsequently less global warming.

42

42

We have noted that one structural change that might appeal to many people is reducing a person's work hours over the year.

In what ways could this be done other than enforcing a shorter (e.g., 4-day) work week.

43

43

a. More holidays or longer breaks during a given holiday
b. Increasing sick leave, maternity and paternity leave
c. Incentives to retire
d. (and of course) a shorter work week

How could such changes possibly be implemented? What would need to happen?

44

44

1. The federal government could step in and require a reduced work week with no reduction in pay or benefits (perhaps somewhat similar to the required minimum wage).
2. Labor unions teaming with those in the environmental movement could demand the change

But, would a reduction in work hours actually result in lower pollution? How might it not?

45

45

1. People's non-working leisure hours might be spent doing environmentally harmful activities such as shopping or travel
2. People may continue working long hours even if they don't get paid for the additional hours in hopes of it "paying off" in the long run with promotions (not mentioned by Stuart)

46

46

3. Companies may invent new technologies to replace employees so that they can avoid a reduction in production (not mentioned by Stuart)

What else, beyond reducing work hours, could be done that might reduce consumerism and production?

47

47

2. Reduce advertising of CO^2 producing products, particularly luxuries, status commodities, and the like.
3. Some Social Scientists believe that a reduction in economic inequality, would reduce consumerism and productivity since the rich would have less to spend.

How could this help?

48

48

Why wouldn't the now wealthier people consume more with their additional money?

Stuart implies the answer is, in part, because there would be more focus on people's well-being and de-emphasis on capitalism that would reduce the current norm of consumption.

49

49

Can you think of any other ways or policies (beyond or in addition to structural change) that could be enacted by government's to reduce CO^2 production or pollutants (Maybe brainstorm a bit)?

50

50

1. Create a carbon tax on products where all products are assessed a carbon emission value. Those that create more CO^2 when being produced would have a higher tax.

An example:

51

51

For example:
the production of a soda bottle would create X amount of CO^2 pollution, so that a CO^2 rating would be attached to a soda bottle and taxed accordingly; the same would be done for all products whether an entire building or a toothpick.

The more CO^2 a product produces the more expensive it will be once adding the tax. As a result, people will shy away from products with a high CO^2 rating (i.e., produce a lot of CO^2 when created).

52

52

2. Continue the "cap and trade" carbon tax of industries—in this case the industry must continually release less and less CO^2 from year to year

Over time, this could result in industries either reducing their productivity in order to meet the CO^2 requirement or finding ways to produce their products while emitting little and eventually no CO^2

53

53

3. Subsidize alternative energy sources so people will use them instead of carbon based energy
4. Give products a "recycle" score (higher score = high % of product recyclable) and then tax products based on this score, lower score = higher tax.
5. Create a tax on restaurants and grocery stores that sell beef and chicken. The more sold the higher the tax.

54

54

1. Why We Need a War on Christmas (22 min)
https://www.youtube.com/watch?v=-o6lJ7Tr63Y

3a. The Mondragon Cooperatives (2:40 mins)
https://www.youtube.com/watch?v=8ZoIOC1mPek

How to Save Our Planet (8:27 min)
https://www.youtube.com/watch?v=OPuvOPss33M

4. Social movements - a primer: Toby Chow (first 10 mins)
https://www.youtube.com/watch?v=Yw13pS7qB7w

2. How the Rich REALLY Cause Climate Change (first 13 mins)
https://www.youtube.com/watch?v=69DFis2WqMQ

The Problem with Consumerism (10:21)
https://www.youtube.com/watch?v=x0ckvo2Z5BU

3b. Children's Show: Global Warming | 6 mins. #kids #science
https://www.youtube.com/watch?v=PqxMzKLYrZ4

How We End Consumerism (11:45)
https://www.youtube.com/watch?v=omcUaD8pxaY

55

55

2019: The Great Pacific Garbage Patch Is Not What You Think It Is | The Swim (7:50)
https://www.youtube.com/watch?v=6HBtl4sHTqU

Aerial Expedition to map the Great Pacific Garbage Patch | Research | The Ocean Cleanup (3:02)
https://www.youtube.com/watch?v=hlIXcq2ijZQ

How System 002 Works | The Ocean Cleanup (2:00)
https://www.youtube.com/watch?v=31gFN3vP_Og

Founder of The Ocean Cleanup is ridding the world of ocean plastic (2:47)
https://www.youtube.com/watch?v=7bPWVxZRF9A

This Will Be My Most Disliked Video On YouTube | Climate Change (12-15)
https://www.youtube.com/watch?v=dpvd9FensT8

56

56

The dirty secret of capitalism -- and a new way forward | Nick Hanauer (show first 9 min and then remaining 8 mins)
https://www.youtube.com/watch?v=th3KE_H27bs

Our Planet: Our Business (biodiversity)(show 17-20mins of 36)
https://www.youtube.com/watch?v=JdWQJq2OkJs

Our Planet | Frozen Worlds | 53 mins, FULL EPISODE | Netflix
https://www.youtube.com/watch?v=cTQ3Ko9ZKg8

Climate Change - We are the PROBLEM & the SOLUTION
https://www.youtube.com/watch?v=-D_Np-3dVBQ

1. Causes and Effects of Climate Change | National Geographic
https://www.youtube.com/watch?v=G4H1N_yXBiA

57

57

Innovating to zero! | Bill Gates, 2010
(18:00/29:32)
https://www.youtube.com/watch?v=JaF-fq2Zn7I

Why people want to put small nuclear reactors everywhere 13 min
https://www.youtube.com/watch?v=GhKQ8EP1a1Y

The Problem with Solar Energy in Africa Real Engineering 18min
https://www.youtube.com/watch?v=7OpM_zKGE4o

The Micro Modular Reactor: Reliable Zero-Carbon Energy Anywhere (7:50 mins)
https://www.youtube.com/watch?v=6PB1OM2yy8I

Small Nuclear Reactors Have A Big Problem (first 6 mins)
https://www.youtube.com/watch?v=XECq9uFsy6o

Nuclear micro reactors to hit the market (2:40)
https://www.youtube.com/watch?v=4z8btElDwBs

58

58

Why people want to put small nuclear reactors everywhere 13 min
https://www.youtube.com/watch?v=GhKQ8EP1a1Y

Bill Gates on How we're doing on the path to zero emissions, 2022 (3 min)
https://www.youtube.com/watch?v=ipkPcrNsCv8

Bill Gates' Terrapower and the Natrium Reactor | Rock Logic | 2022 (start at 1 min – 6 mins)
https://www.google.com/search?client=firefox-b-1-e&q=rocklogic+and+terra#fpstate=ive&vld=cid:d6a53627,vid:_3mZIPO60zw

59

59

How We End Consumerism (why degrowth must happen) (11:45)
https://www.youtube.com/watch?v=omcUaD8pxaY

Why renewables can't save the planet | Michael Shellenberger (show first 11:45 mins)
https://www.youtube.com/watch?v=N-yALPEpV4w

The Problem with Consumerism (10:21)
https://www.youtube.com/watch?v=x0ckvo2Z5BU

The dirty secret of capitalism -- and a new way forward | Nick Hanauer (show first 9 min and then remaining 8 mins)
https://www.youtube.com/watch?v=th3KE_H27bs

60

60

Our Planet: Our Business (biodiversity)(show 17-20mins of 36)
https://www.youtube.com/watch?v=JdWQJq2OkJs

Our Planet | Frozen Worlds | 53 mins, FULL EPISODE | Netflix
https://www.youtube.com/watch?v=cTQ3Ko9ZKg8

Climate Change - We are the PROBLEM & the SOLUTION (9 min)
https://www.youtube.com/watch?v=-D_Np-3dVBQ

Causes and Effects of Climate Change | National Geographic (3 min)
https://www.youtube.com/watch?v=G4H1N_yXBiA

61

61

Stuart suggests:

- a wealth tax
- income cap or
- redistributive measure

Is it reasonable to expect this to happen?

If it were possible to reduce economic inequality, how would this reduce productivity?

62

62