Does ICT help sustainable development?

The Problem

- It is well-understood that there is a need for increased global sustainable development. Information communications technology (ICT), which can deliver communications and therefore solutions, at an unprecedented speed and scale, may be a key driver in delivering more sustainable development.

Data

- Using the indicators inherent in the 17 Sustainable Development Goals (SDGs) as a proxy, I'd like to test which SDGs are most correlated with the level of a country's ICT development (measured via the ITU's ICT Development Index 2016). Example SDG inputs for SDG 14 and ICT inputs from ITU:

SDG 14: Life Below Water

Conserve and sustainably use the oceans, seas and marine resources

Data inputs:

- Ocean Health Index Goal - Clean Waters (0-100)
- Ocean Health Index Goal - Biodiversity (0-100)
- Ocean Health Index Goal - Fisheries (0-100)
- Marine sites that are completely protected (% of marine sites important to biodiversity)
- Percentage of Fish Stocks overexploited or collapsed (%)

ITU data inputs:

- Fixed-telephone subscriptions per 100 inhabitants
- Mobile-cellular telephone subscriptions per 100 inhabitants
- International internet bandwidth per Internet user (Bit/s)
- Percentage of households with computer
- Percentage of households with Internet access
- Percentage of individuals using the Internet
- Fixed (wired)-broadband subscriptions per 100 inhabitants
- Active mobile-broadband subscriptions per 100 inhabitants

Hypothesis

- ICT will be correlated to areas where ICT has already been leveraged (e.g., Goal 3: Global Health, Goal 4: Education, Goal: 8: Economic Prosperity, Goal 9: Innovation, Industrialization and Infrastructure), but not where it has historically not been leveraged, but where there is great opportunity to do so (e.g., Goal 13: Climate Action, Goal 14: Life Below Water, Goal 15: Life Above Land, etc.).

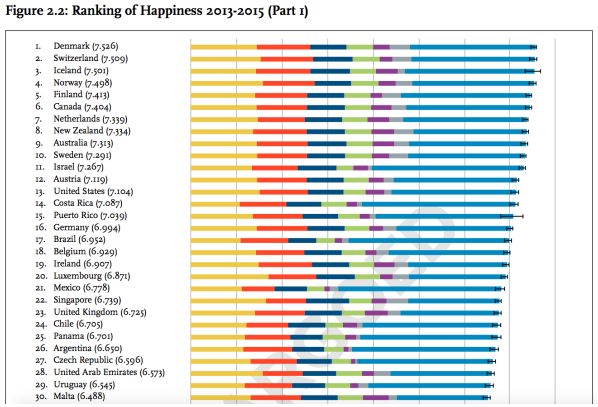
Are richer countries happier ones?

The Problem

- Development policies are often aimed at increasing GDP, or the amount of financial transactions between residents of a country. But, does is there an "hedonic treadmill" effect where more money does not improve the happiness and wellbeing of residents? Is there a non-linear relationship?

Data

- Using GDP data from the World Bank for 156 countries will determine "wealth", while data from the World Happiness Report 2016 published by the UN, which uses data from the Gallup World Poll, will determine "happiness." The World Happiness report also contains GDP data, which may be used instead of World Bank data.



World Happiness Report 2016
Data inputs:

- Happiness rank
- Life expectancy
- Freedom
- Family
- Trust (Government Corruption)
- Generosity
- Dystopia Residual
- GDP per capita

Hypothesis

- Countries with higher GDP will be "happier," but there may be a tapering-off point where increase in GDP has a lower correlation with happiness e.g., at annual per capita GDP USD $75,000.

Are people talking about climate change (more)?

The Problem

- Although climate change remains a serious global issue, due to the size and gravity of the issue, it is often put aside in place of more immediate or personal issues. Given the increase in climate-related storms, droughts and other effects (e.g., refugee crisis, food prices, etc.), are people significantly talking about it on Twitter? And if I can obtain past years Twitter data, are they talking about it *more?*

Data

- Using the EPA climate change glossary and Twitter API data. Another part of this project would be to collect only Fortune 500 business-related Tweets to see if companies are being more outspoken on climate change specifically.

EPA

List of climate change-related terms

Data inputs:

- https://www3.epa.gov/climatechange/glossary.html
- Would perhaps need to compile a NPL dictionary

Twitter inputs:

- Tweets from users (n~100,000) *for the last 10 years if possible to obtain*
- Tweets from Fortune 500 companies) *for the last 10 years if possible to obtain*

Hypothesis

- Despite the size of its importance, I hypothesize that only 10% of Twitter users tweet on climate change-related topics. If I can obtain time series data, then I hypothesize that users are tweeting *more* about climate change than in previous years.