Final Project Proposal

**TOPIC**

INDIA: Water vs. Economic Development = Political Instability?

India has been heavily in the news of late due to a significant water crisis unfolding in multiple states across the country. This map will look at the intersection of economic development, water scarcity, and the possible political repercussions. The two linked questions it seeks to illuminate are “is the scarcity of a critical resource (water) a predictor of political unrest/violence?” and “how closely is the water scarcity linked to economic development?” The first question would give us a sense of the risks at stake here at a political level, and the second would help us understand to what extent local human development is culpable for the situation as compared to natural drought.

**OBJECTIVES**

This map seeks to provide a means of comparative analysis for the drivers, stressors, and potential consequences of water scarcity in rapidly developing India. For me, this map has two fold objectives: to become familiarized with the ACLED dataset, and to work to understand the usefulness (or lack thereof) in layering disparate datasets to observe correlation, and discern when data can be used predictively. For example, is there a point at which water scarcity breeds political unrest? There is some similar work using the ACLED Africa dataset conducted by the Strauss Center at UT Austin in the [Climate Change and African Political Stability](https://www.strausscenter.org/ccaps/) project which formed some of the inspiration for this idea, but they don’t work on India.

A user of this map could be a government decision maker seeking to both easily understand the current water situation at a macro and micro level, see up to date conflict events, and seek to address both the immediate response needs and the underlying causes. This user would have well of moderate skill level in dealing with and understanding different datasets, and the focus is on providing that data in a simple, ergonomic, and elegant structure that will help to highlight moments or places where the data converges into correlation (though of course possibly not causation).

One scenario this user might encounter would be he receives a report of a violent protest in a certain district, of residents frustrated with the lack of adequate water. The user would want to be able to navigate easily to that area, and check what other similar conflicts have occurred there in the past. He would also want to see how those conflicts correlate with the water levels at the time of the events, to possibly extrapolate how serious and sustained the current conflict might be. He would also want to see the recent economic growth in that area, both to understand new potential for water stress and the needs of the population.

At a higher level, the government leadership rolling this out to their staff wants the tool to communicate urgency, and accurately demonstrate the seriousness of the water scarcity issue even when compared to past drought. From a design perspective, it should communicate urgency, not just act as a neutral tool of analysis.

FUNCTIONALITY:

Tiles loaded and drawn to map etc.

Normal user controlled zoom but also when user searches town or location of an ACLED event, zooms to location.

Hover provides current data info, info box with historical data for that State,

Scroll bar allows user to move through time.

Select box allows user to choose type of conflict event.

DATA SOURCES:

ACLED Asia Dataset: <http://www.acleddata.com/asia-data/>

India water Dataset: still working on a usable set, based on what is used by the India watertool: <http://www.indiawatertool.in/>

GDP growth and absolute data is available by state on Wikipedia: <https://en.wikipedia.org/wiki/List_of_Indian_states_by_GDP>

STACK

I’ll be using QGIS to explore some the data in the prototyping stage. Editing of course will be done on brackets. geoJSON.io will be used to reverse engineer the water data if I can’t get the raw files.

ACLED event data is in a csv file, as will the econ data. Water data TBD, possible replicated per above.

I’d like to use CARTODB.JS to interface the the data stored on my Carto account, and link it to a sheet that can be easily updated, altering the map. I’m not there yet as far as familiarity with the cartodb.js library, and look forward to getting more fluent there. I also plan to use JQuery and Leaflet.js.

Web technologies will be html, css, javascript.

Initial project will be hosted on GitHub pages. I also use Squarespace to host a website, and am curious as to the limits of that platform, which I’ve only used for basics. I’d like to see how far I can push the limits there to host or embed this map there. It is easy to embed CartoDB maps, but I haven’t explored if/how there are more complex and controlled ways to host custom coded maps.