

Background

Following the attack of humanitarian workers in Niger in August 2020, a movement #Notatarget has been broadcast on the networks with the reminding of the principles that each NGOs have to follow : neutrality, impartiality, independency, humanity.

Some terrorist groups deny this vision of neutrality, and consider the NGOs as a vehicle from Western countries to control and follow the local population. <https://www.hstoday.us/subject-matter-areas/counterterrorism/isis-declares-humanitarian-aid-workers-are-legitimate-targets/>

This question is all the more significant that :

Major NGOs fundings are from State or Institutional Donors. Some official positions aren't clear as the French Foreign Office Statements : NGOs , under its fundings, work for France and its vision

Problem

Could we prove that the Humanitarian Aids distribution, in its globally, is neutral from Western countries willings ? Could we set up a model correlating Aid volumes for a country over past ten years with the evolution of its Human Development Index (HDI) ?

Data Understanding

We need two kind of datasets :

- Data on the Humanitarian Aid Volume. There is a website dedicated to this Financial Tracking Service(FTS) which is a centralized source of cdownloadable data and information on humanitarian funding flows. Government donors, UN-administered funds, UN agencies, NGOs and other humanitarian actors and partner. FTS is managed by the United Nations Office for the Coordination of Humanitarian Affairs (OCHA).

- Data on HDI: disclosed and managed also by the United Nations Office;

We can confirm the reliability of the data, and the consistency of the 2 datasets that are issued from the same organization.

Data Preparation

We need to remove the countries that face wars as Syria and Yemen where the significant volume of aids couldn't fit in our model. Besides we 'll need to understand if there is an HDI threshold where a country do not receive international humanitarian aids? I'll also do an analysis of the split of aids from global donors in order to confirm their distribution are correlated.

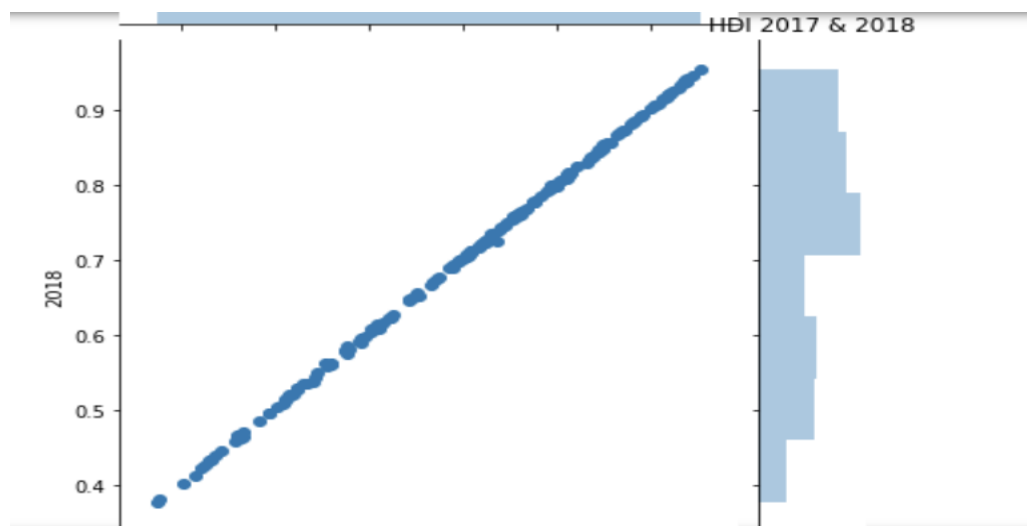
Data Cleaning

We'll don't have to normalize the dataset on HDI (between 0 to 1) .

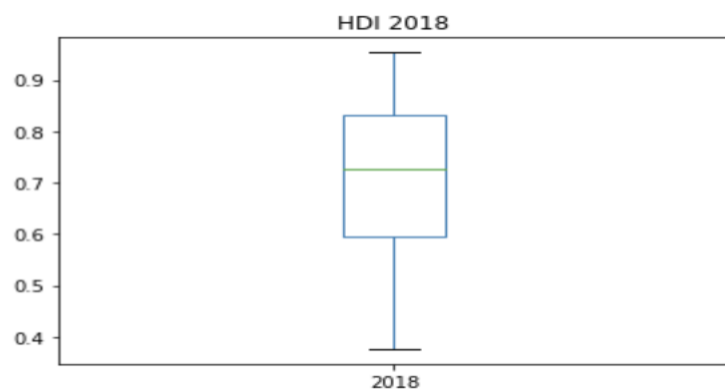
On the volume aids, we'll take into account only "Paid Contributions" and not commitments or pledges in order to take into account only the aids received by the countries.

Data Analysis HDI index

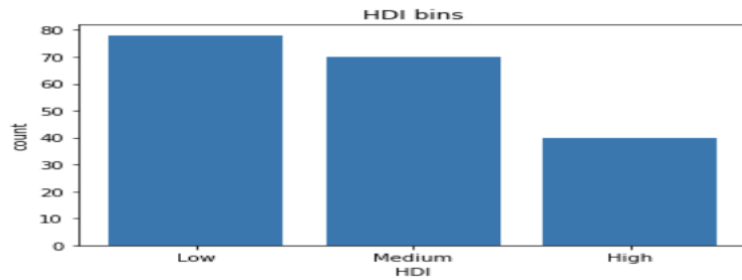
We analyse the split of HDI index on 2 years (2017, 2018). We do understand that we have little variance between these 2 years.



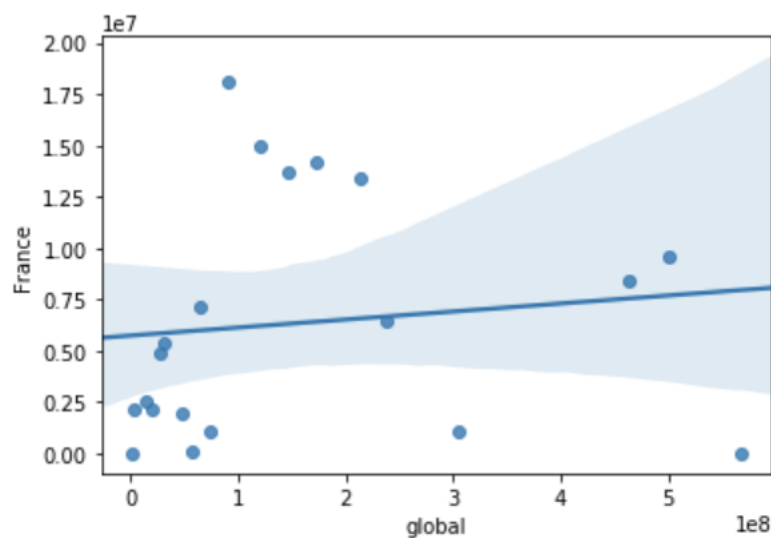
We would like to understand the repartition of HDI index between countries. We focus on 2018 and we note that we can extract 3 categories : top, medium, and low.



Based on this assumption, we used the function to bin the countries based on HDI index in these 3 categories. We note a large number of countries in the category « low »



Regarding Aid, we note first that global aid regards only countries binned in category Low. We noted a discrepancy between aid from French Foreign Office and the global aid. We don't identify a pattern based on linear regression.



Modeling

We used 3 methods to modelize our data :

- HDI index from 2015 to 2018
- Global aid amount from 2018 in volume in Dollars

In order to use an accurate model, we used the following algorithms on the data :

- K Nearest Neighbor(KNN)
- Decision Tree
- Support Vector Machine

Evaluation

We did an evaluation of the models, the accurate model is the K Nearest Neighbor. Regard the accuracy rate, we can confirm that there is a due correlation between HDI indexes and Humanitarian Aid volumes ;

	Accuracy
• K Nearest Neighbor(4)	0.868
• Decision Tree	0.754
• Support Vector Machine	0.868

Conclusion

To go further, it would be interesting to test this model on different funders, and identify the funders that have their own agenda.