



FIELD IS FUTURE

By James Sastrawan



Prevalence of undernourishment in the total population (percent) in 2016-18

This document is intended to be used as a guide for the preparation of a research proposal. It is not intended to be a template for a research proposal. The content of this document is intended to be used as a guide for the preparation of a research proposal. It is not intended to be a template for a research proposal. The content of this document is intended to be used as a guide for the preparation of a research proposal. It is not intended to be a template for a research proposal.

PROBLEMS



03 Expensive?

Expensive to sustain
and produce food?



04 Scarcity?

Is it hard to find
food in that country?



05 Distribution

Bad food
distribution

01 Lack of Food?

Famine?
Shortage of
food?



02 Technology

Lack of Technological
Advancement in Agri
Area?





FAO

Crops Data



KAGGLE

Rainfall and
Temperature



WHO

Calories and
population



18.7 Trillion

Total Calories needed

7.8 Billion

Population

2/5 of our crops

Go to Animals

RAW DATA, example and challenges

Domain Code	Domain	Area Code	Area	Element Code	Element	Item Code	Item	Year Code	Year	Unit	Value	Flag	Flag Description
QC	Crops	2	Afghanistan	5419	Yield	221	Almonds, with shell	2016	2016	hg/ha	16859	Fc	Calculated data
QC	Crops	2	Afghanistan	5419	Yield	221	Almonds, with shell	2017	2017	hg/ha	13788	Fc	Calculated data
QC	Crops	2	Afghanistan	5419	Yield	221	Almonds, with shell	2018	2018	hg/ha	17161	Fc	Calculated data
QC	Crops	2	Afghanistan	5419	Yield	711	Anise, hadian	1986	1986	hg/ha	7143	Fc	Calculated data

	Domain Code	Domain	Area Code	Area	Element Code	Element	Item Code	Item	Year Code	Year	Unit	Value	Flag	Flag Description	
	0	EP	Pesticides indicators	3	Albania	5159	Use per area of cropland	1357	Pesticides (total)	1990	1990	kg/ha	0.17	Fc	Calculated data
	1	EP	Pesticides indicators	3	Albania	5159	Use per area of cropland	1357	Pesticides (total)	1991	1991	kg/ha	0.17	Fc	Calculated data
	2	EP	Pesticides indicators	3	Albania	5159	Use per area of cropland	1357	Pesticides (total)	1992	1992	kg/ha	0.17	Fc	Calculated data
	3	EP	Pesticides indicators	3	Albania	5159	Use per area of cropland	1357	Pesticides (total)	1993	1993	kg/ha	0.17	Fc	Calculated data
	4	EP	Pesticides indicators	3	Albania	5159	Use per area of cropland	1357	Pesticides (total)	1994	1994	kg/ha	0.29	Fc	Calculated data

	4282	EP	Pesticides indicators	181	Zimbabwe	5159	Use per area of cropland	1357	Pesticides (total)	2013	2013	kg/ha	0.62	Fc	Calculated data
	4283	EP	Pesticides indicators	181	Zimbabwe	5159	Use per area of cropland	1357	Pesticides (total)	2014	2014	kg/ha	0.53	Fc	Calculated data
	4284	EP	Pesticides indicators	181	Zimbabwe	5159	Use per area of cropland	1357	Pesticides (total)	2015	2015	kg/ha	0.53	Fc	Calculated data
	4285	EP	Pesticides indicators	181	Zimbabwe	5159	Use per area of cropland	1357	Pesticides (total)	2016	2016	kg/ha	0.53	Fc	Calculated data
	4286	EP	Pesticides indicators	181	Zimbabwe	5159	Use per area of cropland	1357	Pesticides (total)	2017	2017	kg/ha	0.53	Fc	Calculated data

Ideal Data Set

Country Scale

Area	Item	Year	Avg_Rainfall	kg_yield	Avg_Temp	Pesticide_tonnes	Population	Calories Needed
India	Corn	1992	1000	19231	23	400	1million	200,000
...
India	Corn	2014	1000	76283	26	200	3million	500,000

Global Scale

	Item	Year	Avg_Rainfall	kg_yield	Avg_Temp	Pesticide_tonnes	Population	Calories Needed
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127 Countries

Item	Area
Mushroom and Truffles	Netherlands
Cucumbers and gherkins	Netherlands
Mushrooms and truffles	Romania
Tomatoes	Netherlands
Eggplants	Netherlands

Clean-up and Modelling

Some technical things:

One Hot Encoded

Regression Will be used

- **Random Forest Regression**
- **Linear Regression**
- **Gradient Boosting**

Graphing & Visualization

- **Graphing if crops can sustain human's growth**
- **Actual vs Predict Graph**
- **Boxplot of feature of importance**

Thanks!

ANY QUESTIONS?

