

How to Prioritize Funding for Development of Agricultural Projects in the post-COVID era?

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Context business:

Since 2017, the ADR has co-financed 232 projects with around 263 billion pesos on investment, and 133 billion pesos by counterpart, throughout all Colombia departments, thus benefiting more than 24000 people across 23 production lines, that is, around 300 production chains. Each advance in this sector has a major impact on the country, since one in 4 Colombians is a farmer and 63% of the beneficiaries are from this population.

Problem:

From a base of 3806 projects (and growing), how to choose the ones with the greatest impact and benefit for the country?

Solution:

A web assistant for the evaluation of the main predictors of efficient development the ADR production chains before investment.

<http://team56-ds4a.com.co>

Datasets:

UPRA spatial information; National road network; FAO & Corabastos historic Prices; IPC DANE; ADR data sets.

Data Preprocessing:

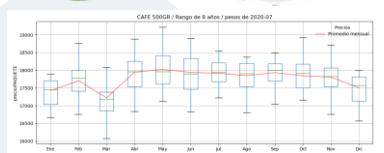
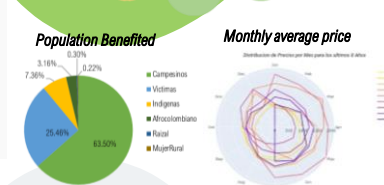
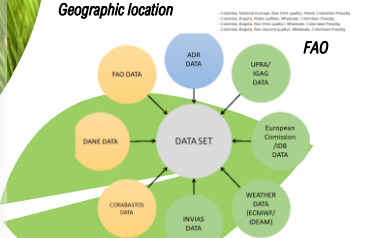
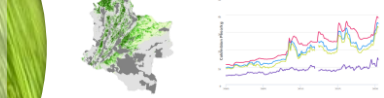
1. Revision of the different dataset and relevant attributes.
2. Data extraction from external information and data cleaning.

Data Insights:

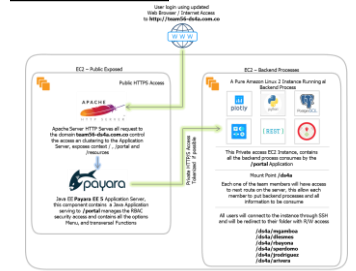


Productive chain it's one that focuses on linking two or more value adding activities within the framework of an agricultural value chain, increasing their keenness.

EDA:



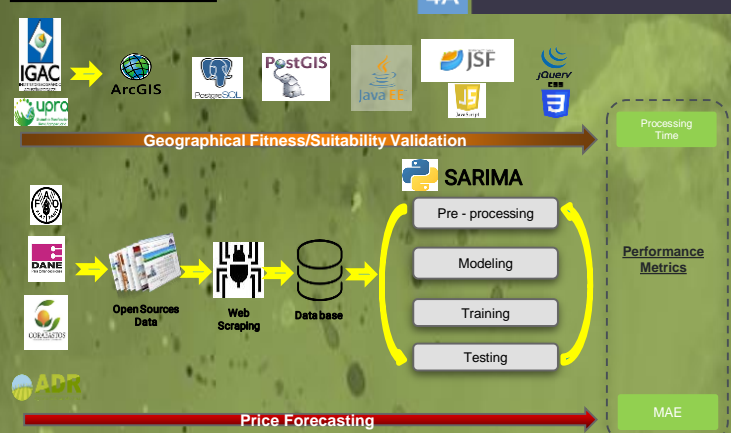
Tech. Architecture:



Final Assessment Report:



Data science Process:



General Value Chain Edges:

The wizard will evaluate the following Edges for each project:

1. **Land Use Fitness:** Viability of the locations
2. **Transport:** Accessibility Location
3. **Population:** Membership in prioritized communities
4. **Financial:** The time to refund the investment
5. **Benchmarking Prices:** Time to market and prices scenarios to have benchmarking view

Price Forecasting Model:

We use a SARIMA model and the Dickey-Fuller test model for the 178 Abastos products, This exercise throw a MAE of around 12% for each reference



Advantages:

- ✓ **'One Click Project Viability'** Immediate evaluation and analysis at the time of completing the project information
- ✓ **Use of daily updated information** in the case of the Corabastos prices, through an automated web scraping process.
- ✓ **Ease of updating** UPRA and IGAC layers.
- ✓ **The report of the assessments** carried out are stored in the database for **future retrieval** of projects already evaluated.
- ✓ **Facilitates the decision-making** process on which project to invest in order to **obtain the greatest impact and benefit** for Colombia.

