



HELP INTERNATIONAL

NGO

COUNTRIES IN DIREST NEED OF AID

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APPROACH & METHODOLOGY

DESCRIPTION OF DATA

- Shape
- Info
- Data Type
- Statistical Summary of Data

DATA CLEANING

- Checking Null values
- Converting variable in absolute value(imports, health and exports)

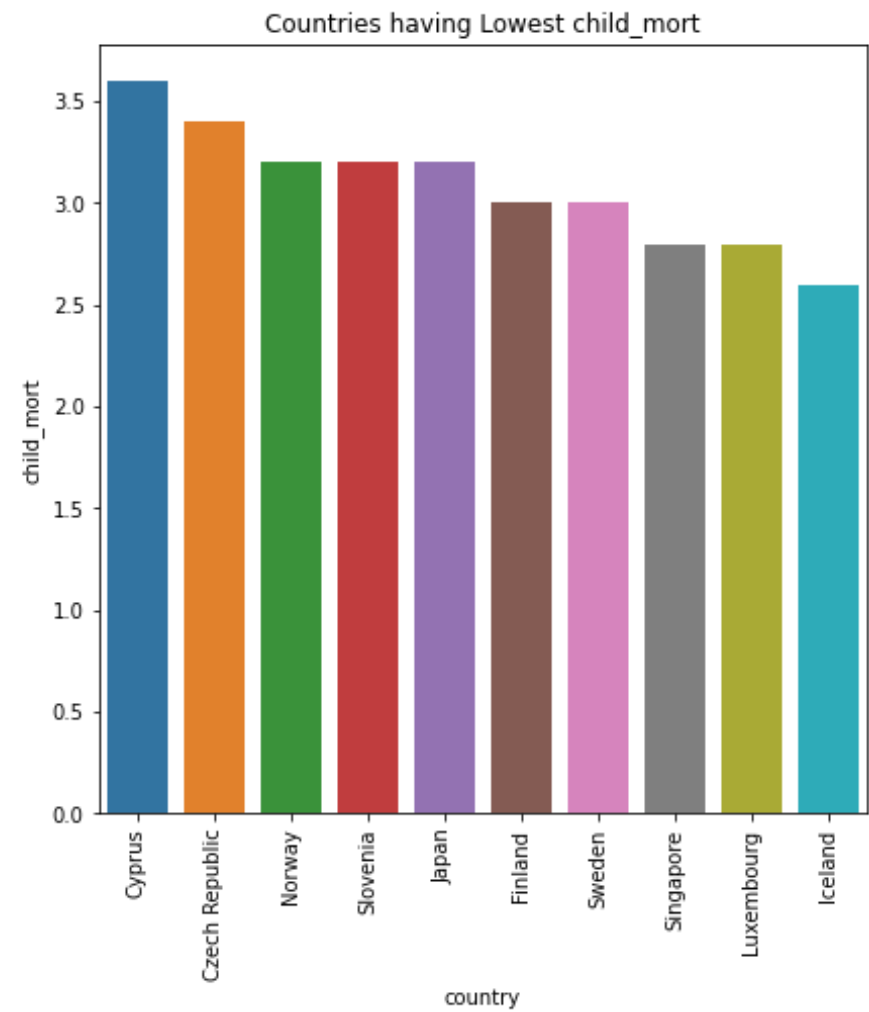
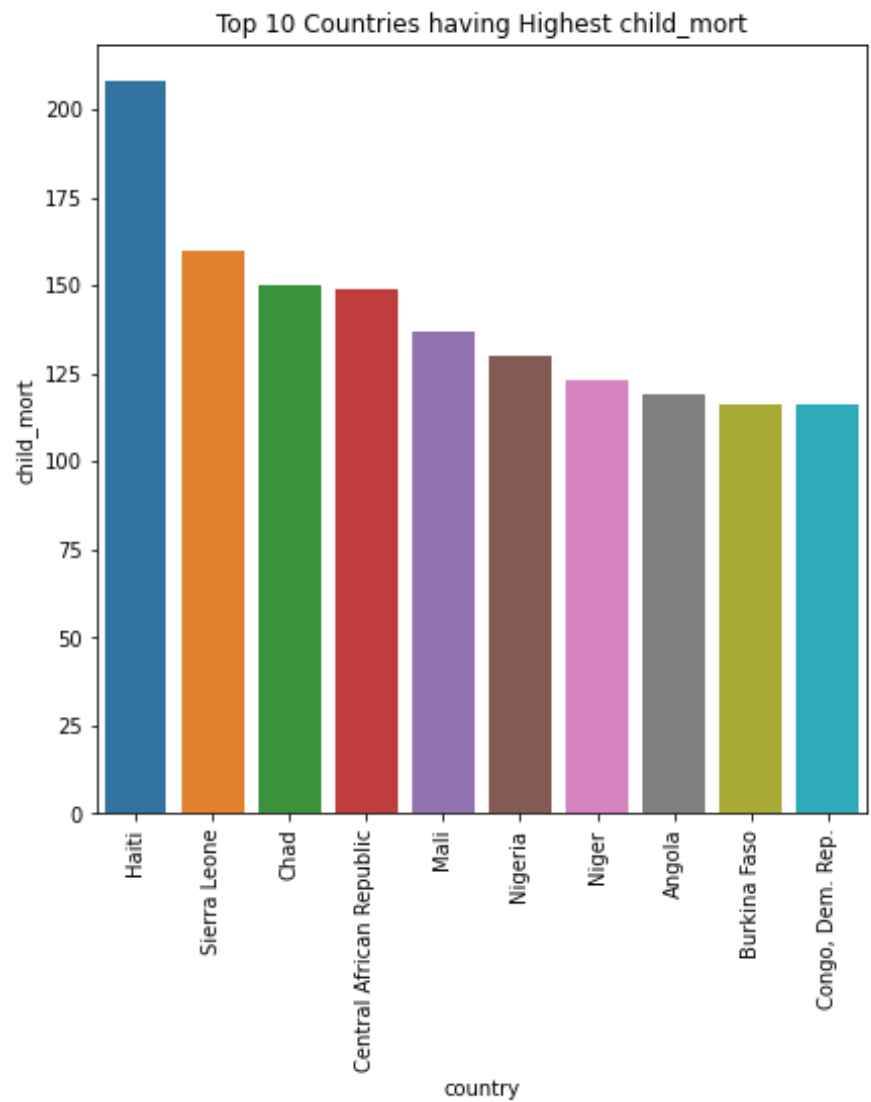
EDA

- Univariate Analysis of all the variables (continuous variable – Distribution plot)
- Bivariate Analysis of variables by plotting bar plot (country vs variable)
- Heat map to find the correlation between variables.
- Outliers Treatment

CLUSTERING

- Data preparation (Scaling)
- Finding optimum number of cluster
- Finding variables that affects the most to find the underdeveloped countries
- Listing out the Countries in direct need of aid

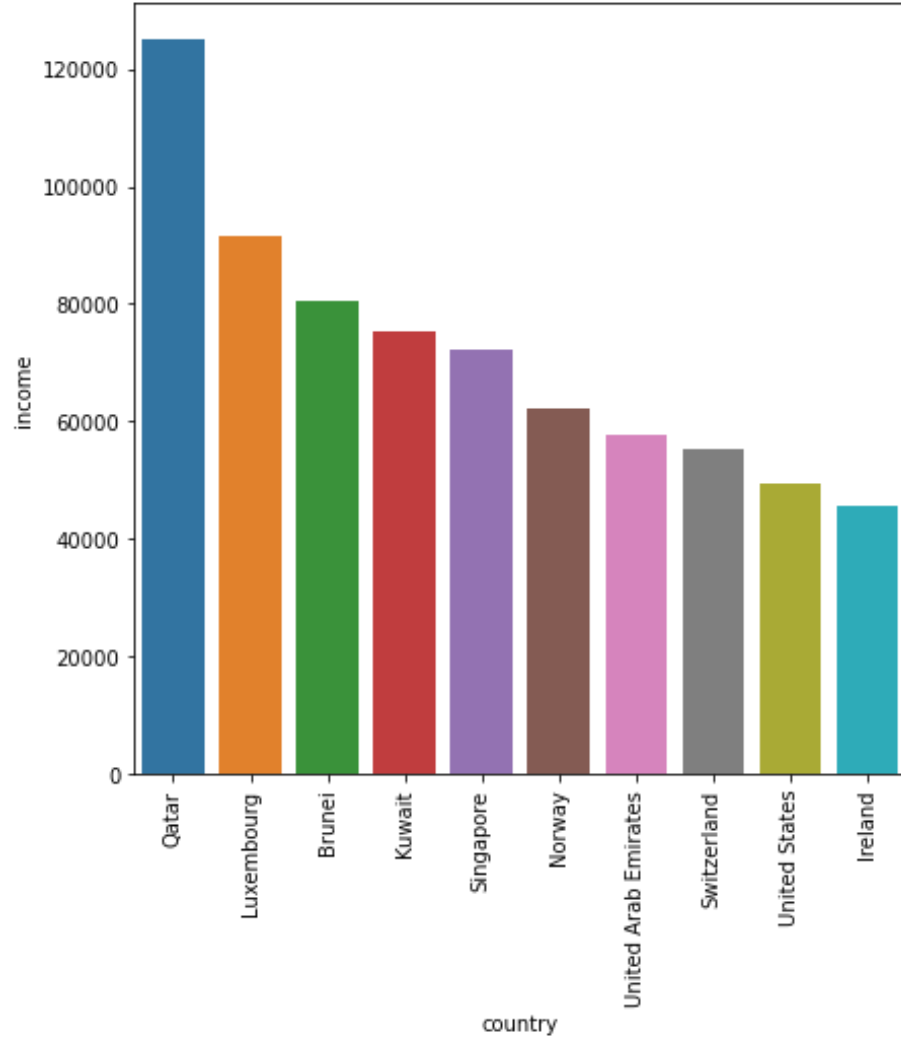
COUNTRY VS CHILD MORTALITY



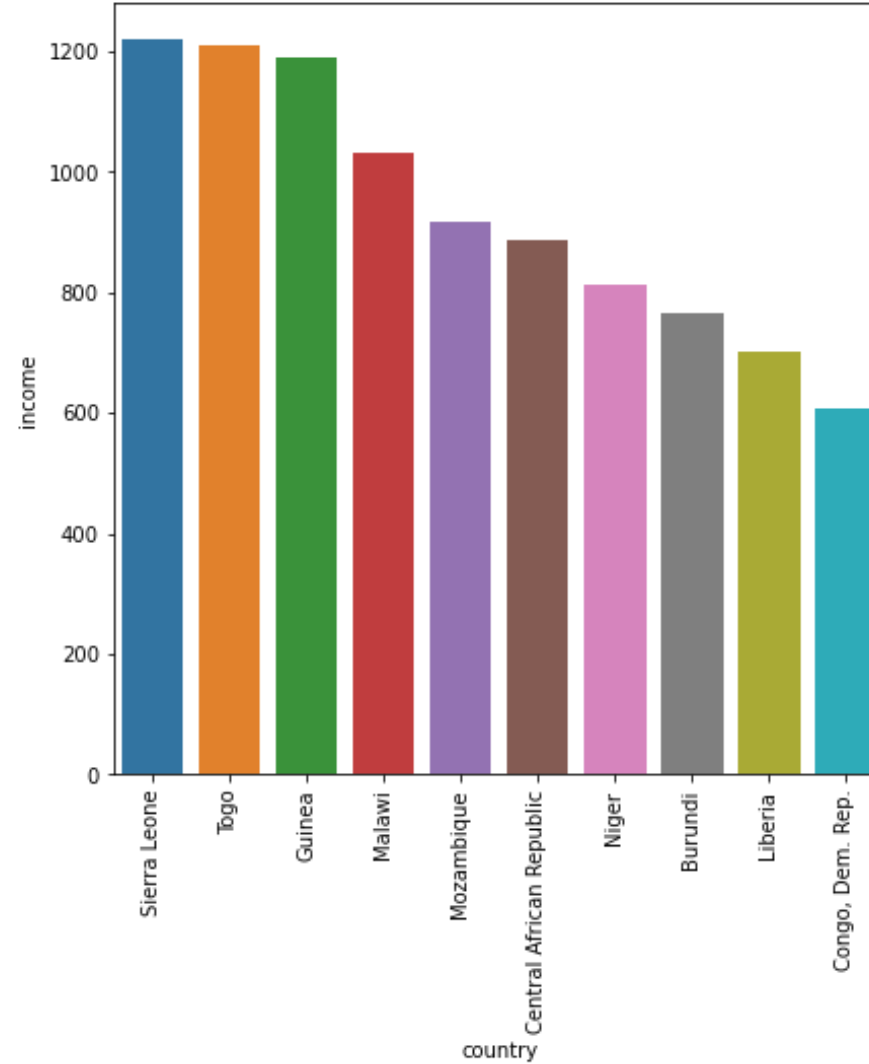
- Child mortality is more than 200 in Haiti
- Child mortality is very less, less than 3 in the following countries - Luxembourg, Iceland and Singapore.

COUNTRY VS INCOME

Top 10 Countries having Highest income



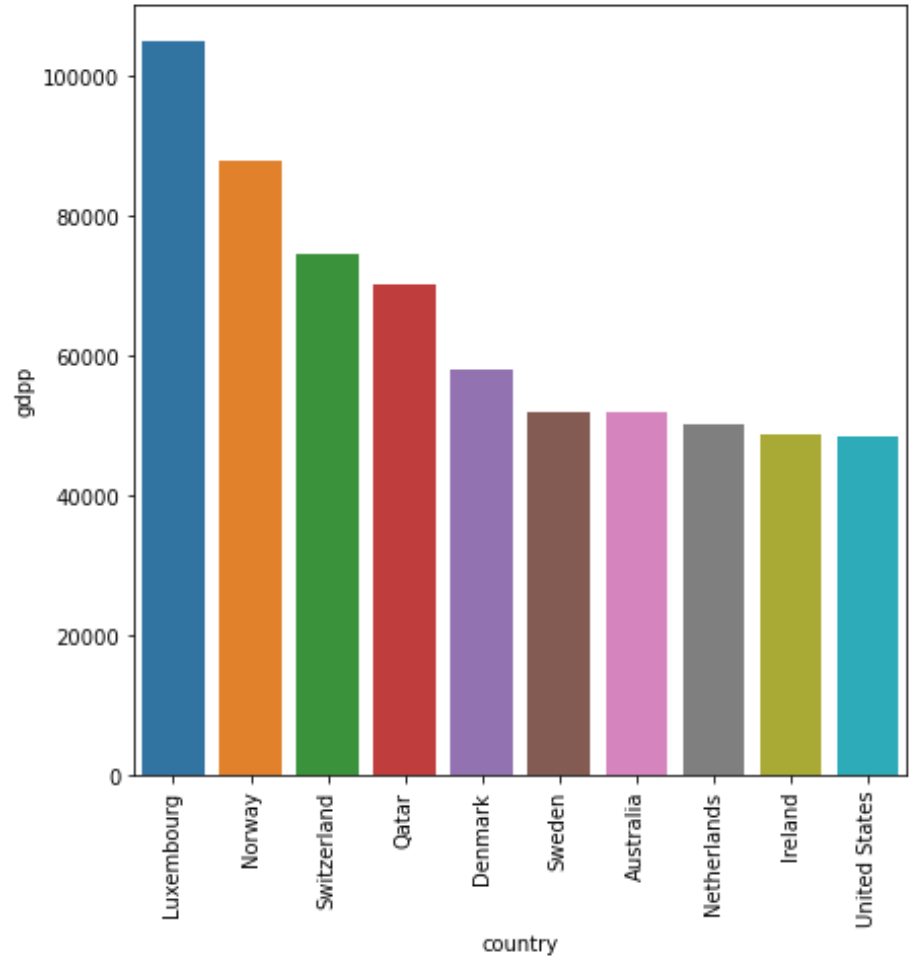
Countries having Lowest income



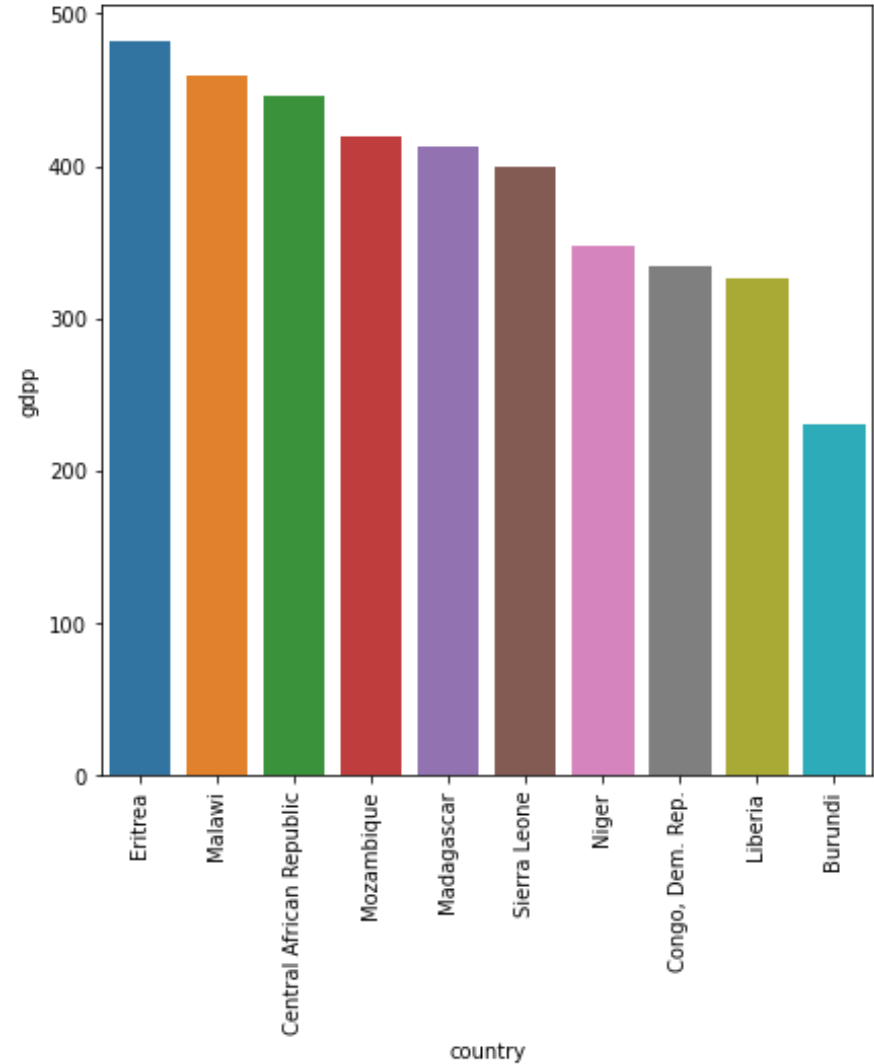
- Net income per person is highest in Qatar followed by Luxembourg.
- Net income per person is very less in Congo, Dem. Rep.

COUNTRY VS GDPP

Top 10 Countries having Highest gdpp

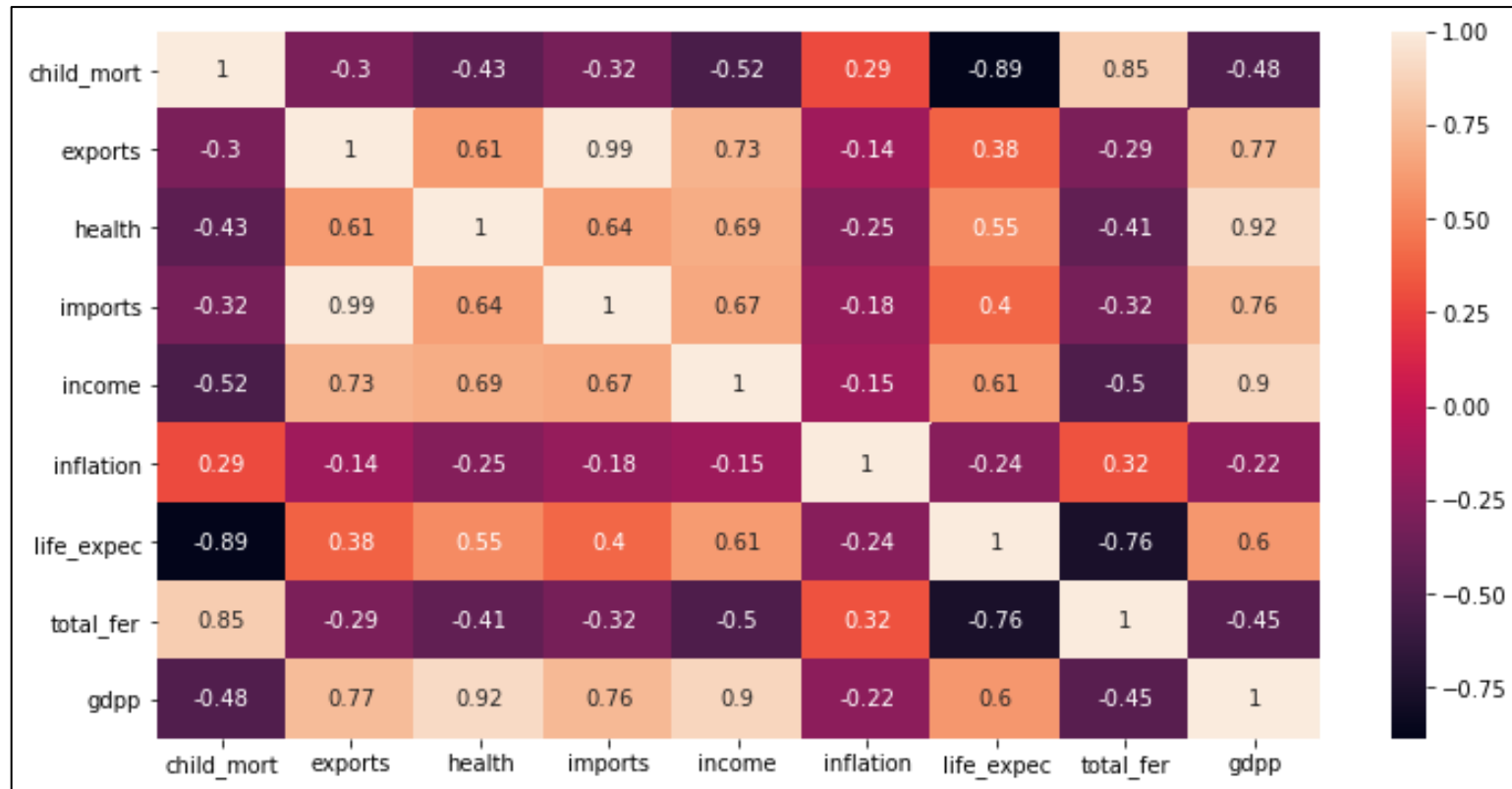


Countries having Lowest gdpp



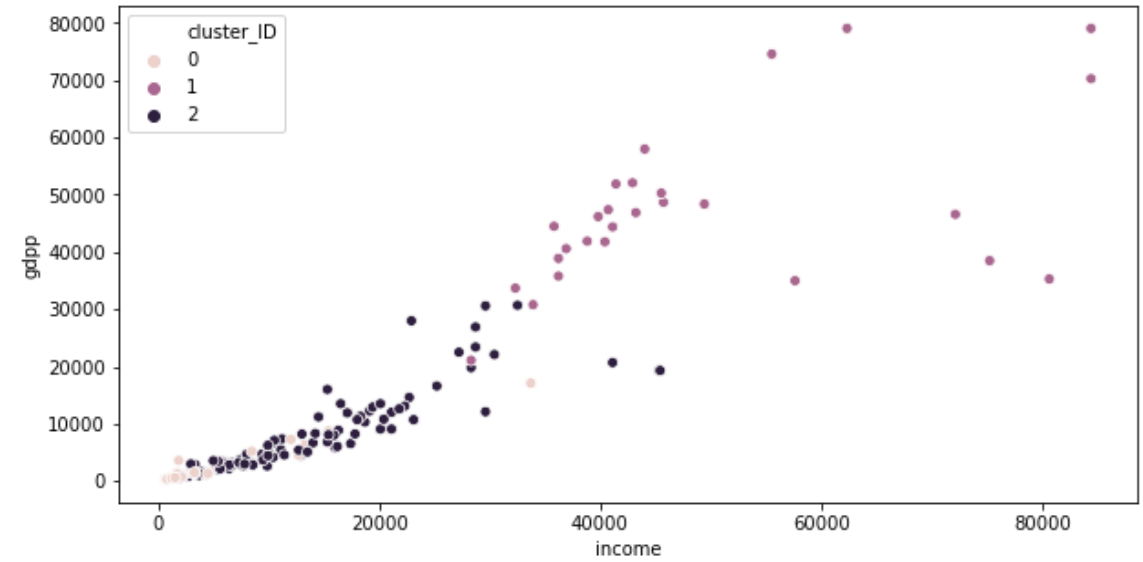
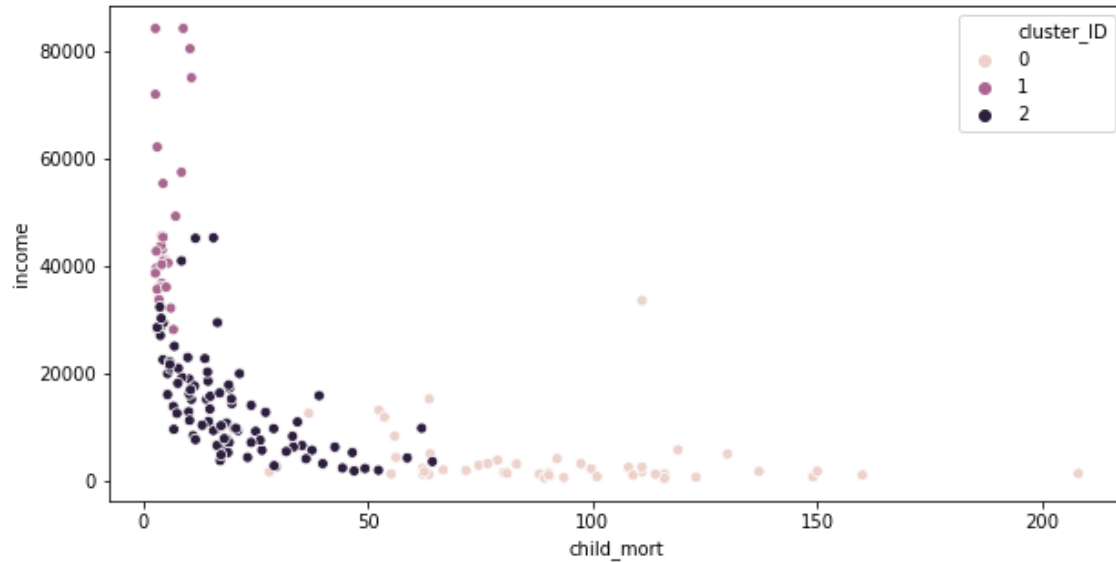
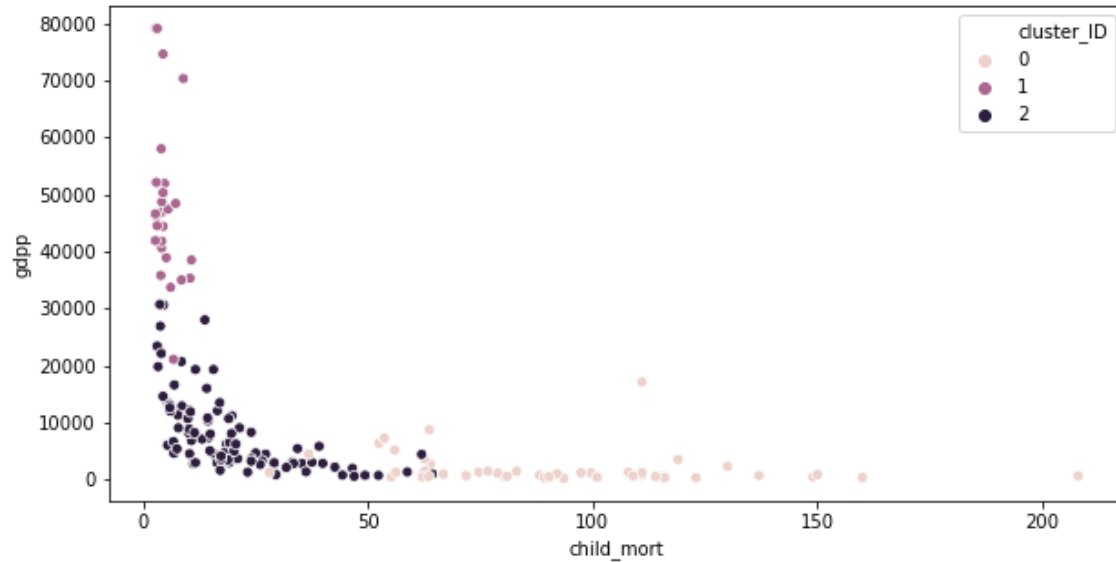
- gdpp is highest in Luxembourg followed by Norway.
- gdpp is less than 300 in Burundi.

CORRELATION BETWEEN VARIABLES



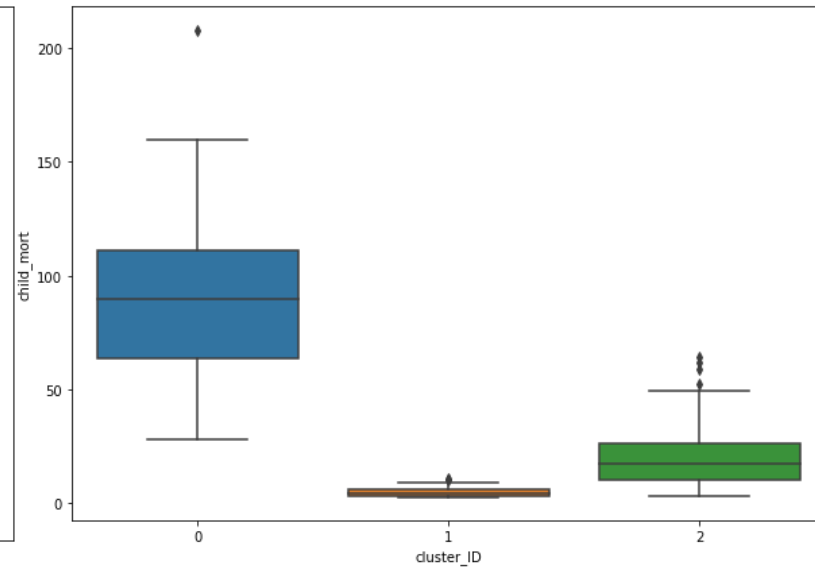
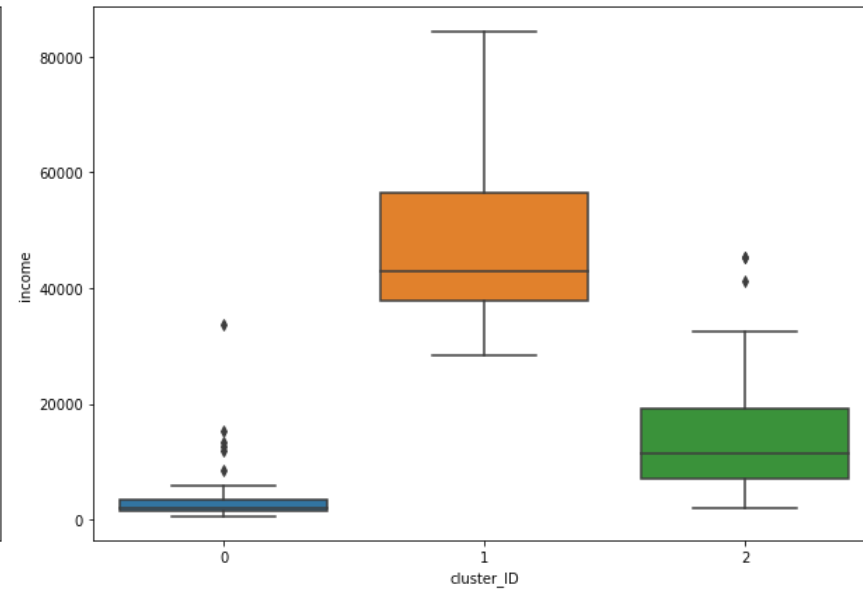
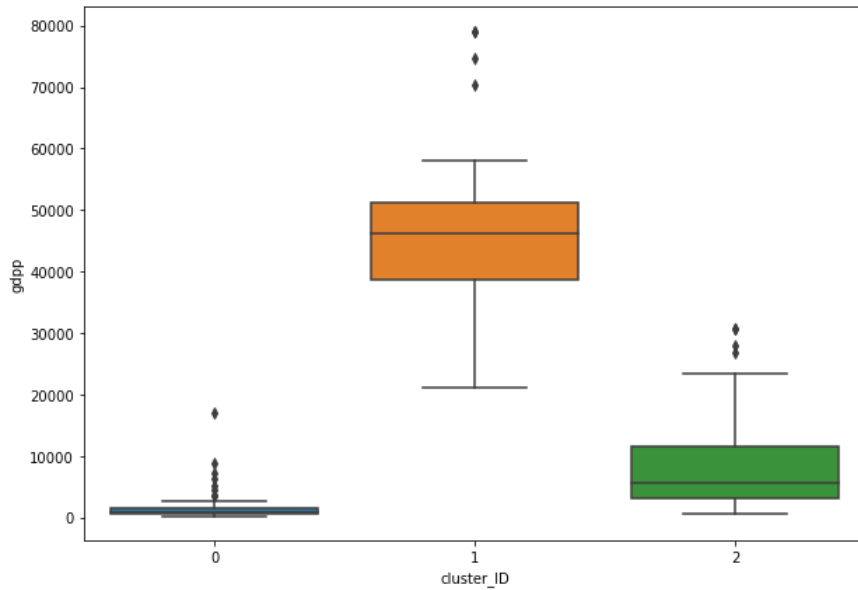
- 'gdpp' is highly correlated with 'exports', 'health', 'imports' and 'income', with correlation coefficient 0.77, 0.92, 0.76 and 0.9 respectively.
- 'Total fertility' is positively correlated with 'child mortality' with correlation coefficient 0.85. Whereas 'total fertility' is negatively correlated with 'life expectancy' with correlation coefficient -0.76.
- 'life expectancy' is negatively correlated with 'child mortality' with correlation coefficient -0.89.
- 'income' is correlated with 'exports' with correlation coefficient 0.73.
- 'imports' is highly correlated with 'exports' with correlation coefficient 0.99.

GDPP, INCOME & CHILD MORTALITY



- **CHILD_MORT VS GDPP** - Cluster_ID 0 have countries with low 'gdpp', whereas Cluster_ID 1 have countries with low 'child mortality' and high 'gdpp'.
- **GDPP VS INCOME** - Cluster_ID 0 have countries with low 'income' and low 'gdpp', whereas Cluster_ID 1 have countries with high 'income' and high 'gdpp'.
- **CHILD_MORT VS INCOME** - Cluster_ID 0 have countries with low 'income', whereas Cluster_ID 1 have countries with low 'child mortality' and high 'income'.

CLUSTER PROFILING



- Cluster 0 consist of countries with high 'chid mortality', low 'income' and low 'gdpp'
- Cluster 1 consist of countries with low 'child mortality', high 'income' and high 'gdpp'

CONCLUSION & RECOMMENDATIONS

- The CEO of the NGO majorly should focus on the countries with low gdpp. Since most of the other factors such as Imports, Exports, health and income is highly correlated with the gdpp factor.
- NGO should also focus on the countries with high child mortality. Child mortality is highly positively correlated with total fertility and negatively correlated with life expectancy factor therefore, no need to look after the other two variables.
- Since countries with less imports and exports will not have source of income from this major sector which helps in improving economy of the country therefore, countries with less Exports and Imports of goods and services per capita should also be considered.
- All other factors are highly correlated with child mortality and gdpp therefore, CEO should focus on the countries with high child mortality and low gdpp only.

S.No	COUNTRIES IN DIREST NEED OF AID
1	Burundi
2	Liberia
3	Congo, Dem. Rep.
4	Niger
5	Sierra Leone

THANK YOU!