

Donation money

Before starting and presenting the answer to this project, it is necessary to first fully explain the problem and thoroughly examine all the micro-factors and parameters that affect the **income** and **gpp** of a country. I will offer:

Statistical table of countries with the lowest annual income

	child_mort	exports	health	imports	income	inflation	life_expec	total_fer	gdpp	cluster
count	7.000000	7.000000	7.000000	7.000000	7.000000	7.000000	7.000000	7.000000	7.000000	7.0
mean	108.914286	22.488571	7.464286	48.300000	817.571429	8.981429	55.700000	5.912857	366.285714	3.0
std	21.895390	11.087572	3.146357	21.240056	141.644928	6.639662	4.440345	0.892594	80.572357	0.0
min	89.300000	8.920000	3.980000	26.500000	609.000000	2.010000	47.500000	5.020000	231.000000	3.0
25%	92.050000	15.450000	5.185000	37.050000	732.000000	4.010000	53.800000	5.260000	330.500000	3.0
50%	101.000000	22.200000	6.590000	46.200000	814.000000	7.640000	57.500000	5.560000	348.000000	3.0
75%	119.500000	27.150000	9.755000	49.350000	903.000000	12.200000	58.250000	6.400000	432.500000	3.0
max	149.000000	41.100000	11.800000	92.600000	1030.000000	20.800000	60.800000	7.490000	459.000000	3.0

First, I have to tell you that according to the correlation table, **gdpp** and **income** have a very close correlation with each other and are almost the same (0.9), so instead of using the word **gdpp**, I use **income**.

An increase in population can increase demand and thus increase the price of raw materials and thus inflation. And as you can see, **total_fer** or the birth of children in these countries is an average of 6 children.

life_expec = The higher it is, the higher the life expectancy and the more people can spend years working and contributing to economic growth. As you can see, the average life expectancy in these countries is 55 years, which is a very small number.

export_import and income = It is logical that with the increase of exports, the income increases and with the increase of imports, the income decreases, which we also see. And in these countries, the average import is almost twice as much as exports, which greatly reduces **gdpp**.

World bank economy

Low income	< 1,036
Lower-middle income	1,036 - 4,045
Upper-middle income	4,046 - 12,535
High income	> 12,535

total_fer = The number of children born during a woman's lifetime. It shows the population growth rate. According to the factors of this data:

1. As population increases and raw material prices rise, inflation increases as a result of annual revenue decreases
2. With the increase in population, and naturally the decrease in facilities for the general public, the life expectancy rate decreases, which can be due to the reduction of services in matters related to health, reducing the country's income and thus reducing facilities and food for the general public.
3. Statistically, the number of deaths of children under 5 years old increases due to the increase in the number of births and as a result the increase in the number of general statistics.
4. The case that causes inconsistencies in the data is the amount of costs and expenses related to health costs. It is logical that with the increase in population, the amount of medical costs also increases, which we do not see in this data. Due to the increase in inflation and the decrease in the annual income of the country, serious damage has been done to the care related to the health sector and the medical authorities are not able to serve the masses of the population, which naturally reduces treatment costs.
5. It should be noted that, it is true that in developed countries generally have a low population growth rate, which in turn improves the economic situation, health, education, etc., but if the population growth rate is too low, the risk of population aging. Is looking for. After analyzing this data, and using various methods to cluster and categorize countries that are financially disadvantaged in terms of factors such as income and GPP, using the k mean algorithm, which in terms of metrics and evaluation of favorable conditions Out of 168 countries, I selected 48 as countries in financial straits, and then among them, 7 countries, which according to the criteria of the International Bank, income <1036 as countries with critical income. And very few, I have selected as priority countries for donations, which I will list below.

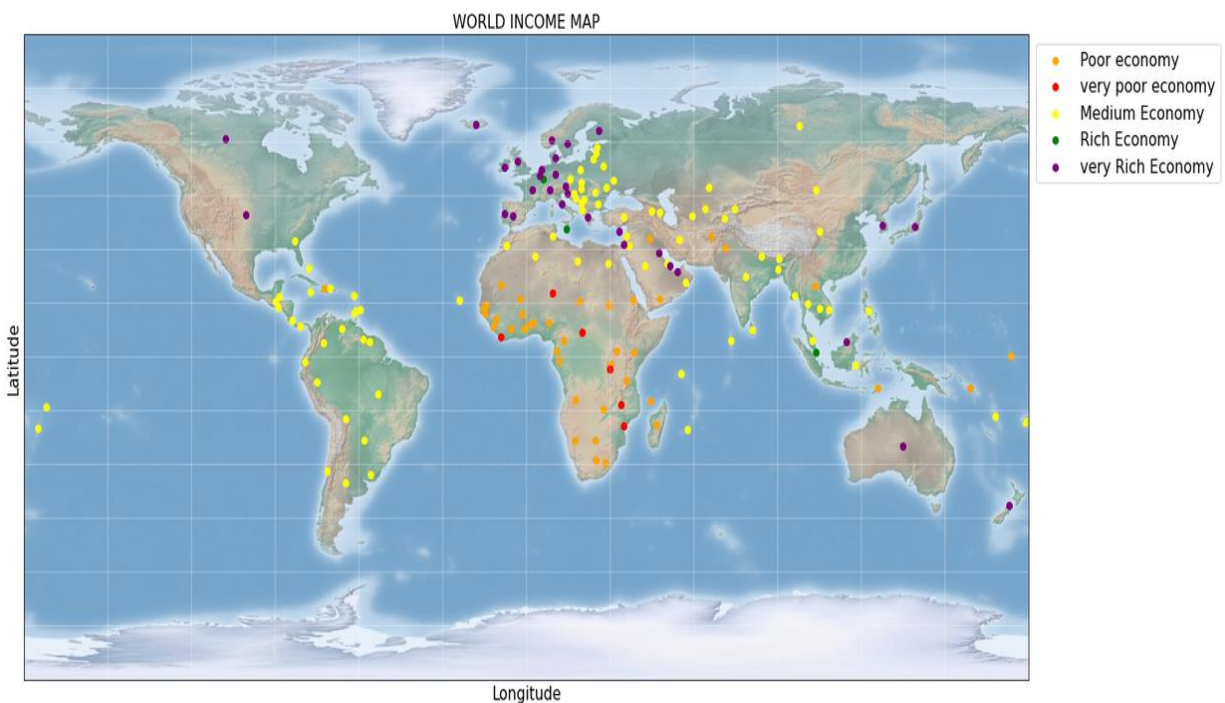
Very poor countries

country	child_mort	exports	health	imports	income	inflation	life_expec	total_fer	gdpp
Burundi	93.6	8.92	11.60	39.2	764	12.30	57.7	6.26	231
Central African Republic	149.0	11.80	3.98	26.5	888	2.01	47.5	5.21	446
Congo, Dem. Rep.	116.0	41.10	7.91	49.6	609	20.80	57.5	6.54	334
Liberia	89.3	19.10	11.80	92.6	700	5.47	60.8	5.02	327
Malawi	90.5	22.80	6.59	34.9	1030	12.10	53.1	5.31	459
Mozambique	101.0	31.50	5.21	46.2	918	7.64	54.5	5.56	419
Niger	123.0	22.20	5.16	49.1	814	2.55	58.8	7.49	348

Poor countries

1	Angola	35	Senegal
2	Benin	36	Sierra Leone
3	Botswana	37	Solomon Islands
4	Burkina Faso	38	South Africa
5	Burundi	39	Sudan
6	Cameroon	40	Tanzania
7	Central African Republic	41	Timor-Leste
8	Chad	42	Togo
9	Comoros	43	Uganda
10	Cote d'Ivoire	44	Yemen
11	Equatorial Guinea	45	Zambia
12	Eritrea	46	Afghanistan
13	Gabon		
14	Gambia		
15	Ghana		
16	Guinea		
17	Guinea-Bissau		
18	Haiti		
19	Iraq		
20	Kenya		
21	Kiribati		
22	Lao		
23	Lesotho		
24	Liberia		
25	Madagascar		
26	Malawi		
27	Mali		
28	Mauritania		
29	Mozambique		
30	Namibia		
31	Niger		
32	Nigeria		
33	Pakistan		

In general, according to this data, it can be concluded that in order to control inflation and economic growth, the higher the amount of imports and exports, the more the economic recession and the increase of the financial neck, increasing jobs and thus reducing the initial price, reducing inflation and Life expectancy increases and as I served you before, in these countries due to lack of exports and increased imports, high mortality rate among young children, low life expectancy, neglect of health issues and .. Compared to other countries, gdpp is very low and they are given priority in receiving financial aid. Next, using the names of the countries and extracting their latitude and longitude, I divided the countries into 5 groups and showed them on the map of the planet: (I divided cluster number 3 into two sections, poor and very poor)



As you have already seen, the red and orange dots indicate the countries with the worst economic conditions, which are generally located on the African continent, the red dots are the main priority for receiving financial assistance.

1. Central African Republic 2. brundi 3. Liberia 4. malawai 5. Mozambique 6. niger 7. congo

Unfortunately, in this continent, due to lack of facilities, poor living conditions, high morbidity and death and long-term colonization, the economy has been damaged and on the other hand, countries such as: Japan, North America, Australia and ... It is very rich in terms of economic income and people have a good living situation.