design process report.

Team Fruit Flies
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Introduction

This report documents our process of using design principles, user testing, design methods, and exploratory data analysis to transform a chosen data set into an interactive webpage. We discuss the exploration into the chosen data set, the design methods and decisions involved, as well as the final rationale. Our aim was to create a visualisation that was both engaging and educational for not only our target users, high school and university students, but also a broader audience. This meant designing a dynamic and interactive visualisation that empowered users to 'explore the data for themselves' (Murray, 2017).

The Data Set

Focusing on our story, or 'message' can improve a person's 'sense-making', allowing us to focus on the overall message of the information, rather than just analysing the numbers (Perdana, Robb & Rohde, 2018). Having explored numerous datasets online, this was our approach to ensure our chosen data contained a meaningful story we could visualise. While our initial approach was to re-examine seasonal domestic violence from our previous assignment, the dataset did not sustain valuable interactions. By zooming out to gain a broader glimpse into crime, we found an intriguing story to be told in causes of death around the world - specifically, the disparities in types of death between countries.

The dataset was sourced from *Our World In Data*, an online publisher of datasets that targets major global issues. This organisation focuses on making data more globally available, accessible and understandable so that people can make progress against the world's largest problems (Our World in Data, 2020). The specific dataset used was '*annual-number-of-deaths-cause'.csv*, which estimated the quantity of premature deaths by category by country from 1990 - 2017.

Our World in Data compiled these figures through various internationally recognised and reputable organisations sources. These include; vital registration, verbal autopsy, surveillance, census and survey data, cancer registries and police records (Our World in Data, 2020). Additionally, The Global Burden of Diseases' methods for processing and standardising all-cause mortality data have been used to create the dataset and calculate the completeness of the data (GBD 216 Causes of Death Collaborators, 2016). The types of death are defined by the

International Classification of Diseases and recognised by the World Health Organisation. The organisations and their involvement in the dataset as provided by Our World In Data are as follows:

- Institute of Health Metrics and Evaluation (IHME), Global Burden of Disease (GBD) - Death rates and absolute number of premature deaths, globally from 1990 onwards
- World Health Organisation (WHO) Global health Observatory (GHO) - Causes-specific mortality by age and sex, globally from 2000 onwards every 5 years
- Global Terrorism Database (GTD) - Terrorist attacks with 45 - 120 variables for each, including number of fatalities, injuries, weapons used and perpetrators, globally from 1970 onwards
- Amnesty International - International reports of executions, globally from 2007 onwards

Exploratory Data Analysis and Process

Data Wrangling

The raw dataset - a .csv file - was an extensive list with 24 types of death for each country and more over the span of 20 years. It contained several issues such as missing data for certain years, data for countries that no longer existed, as well as other entities that were outside the scope of our design - in this case, 'World excluding China', 'Western Europe', and countries Hong Kong and Guadalupe were excluded. The article also grouped the data into 3 broad categories 'Non-communicable Diseases', 'Injuries' and 'Communicable, Maternal, Neonatal, and Nutritional Diseases' (see Appendix A). To both avoid cherry-picking from such a large dataset and also better explain the range of deaths, we decided to expand these categories to show the bigger picture (see Appendix D).

In the process of grouping the types of death into smaller categories *(Figure 1)*, the classifications provided in Our World In Data were cross referenced with additional research to ensure they retained scientific accuracy. For example, in creating the Infectious Diseases, Chronic Diseases and Non-Infectious Diseases categories *'Bringing Chronic Disease Epidemiology and Infectious Disease Epidemiology Back Together'* consulted that these three groups, although at times interdependent and overlapping, needed to be kept separate due to the nature and circumstances of the diseases .

Non-Infectious Diseases	**Nutritional Disorders**	**Chronic Diseases**
Respiratory Diseases	Protein-energy Malnutrition	Lower Respiratory Infections
Kidney Diseases	Nutritional Deficiencies	Cardiovascular Diseases
Liver Diseases		Diabetes
Digestive Diseases	**Drug Use**	Cancers
Hepatitis	Drug Use Disorders	Parkinson Disease
Diarrheal Diseases	Alcohol Use Disorders	Dementia
	Misadventure	
Infectious Diseases	Fire	**Birth Disorders**
Meningitis	Heat (Hot and Cold Exposure)	Maternal Disorders
Malaria	Drowning	Neonatal Disorders
HIV/AIDS	Road Injuries	
Tuberculosis	Poisonings	**Politically Motivated**
Intestinal Infectious Diseases	Natural Disasters	Execution
		Terrorism
Homicides	**Suicides**	Conflict (War)
Homicides	Suicides	

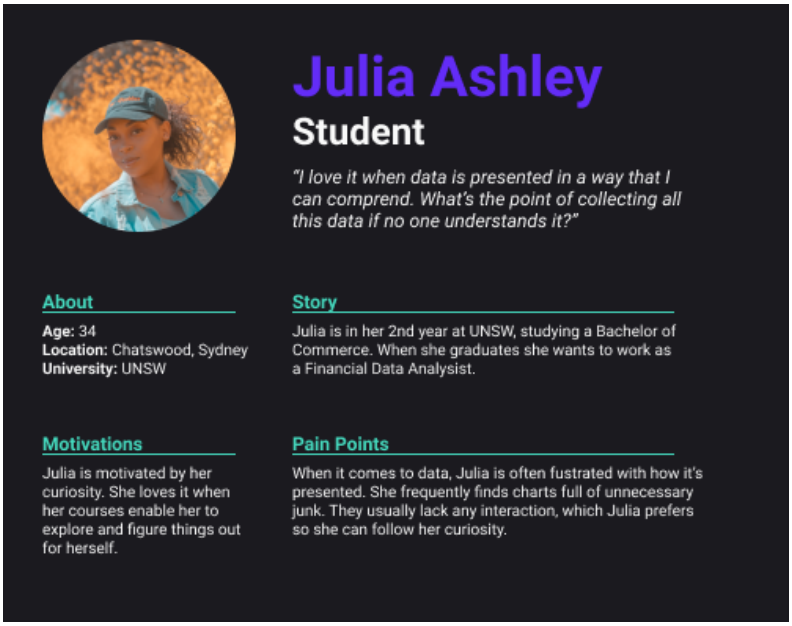
(Figure 1). When choosing the type of graph, we initially considered line graphs, as they best highlighted the differences in time, as well as column graphs to illustrate differences between categories (see Appendix H and I). These forms ultimately suffered when comparing multiple categories or years against each other as the graph became too cluttered and change was too minor or hard to notice. Further experimentation in Excel revealed that radar graphs were the most efficient in using areas to showcase the differences between each category (see Appendix J and K). However, the dataset still required data wrangling for the visualisation to be coherent when plotted on a radar graph. As different categories had a different range of values, plotting the data in its raw form led to some categories outweighing others due to their large disparities (see Appendix K and L).

In order to get around this issue, we normalized the data. This made all the points in a specific category hold a value between 0 - 1 (See Appendix F), aligning all types of death in the same range to be plotted together on the same axis. Now, instead of the values being indicative of the absolute numbers of a type of death that occurred in a specific country and year, it became a value indicative of the ratio that a specific type of death held compared to all the other values in that category.

From this state, the values were then turned into percentages (See Appendix G). This change from absolute numbers to percentages based on normalised data ultimately transformed our data to tell a more insightful story. Once converted to a percentage, the data then represented the proportion as a percentage of deaths of a category that occured in an instance but not the absolute amount. This improved our story as it provided an accurate representation of a category's weighting compared to others, allowing the user to determine the most predominant causes of death in a specific country in a specific year as well as the change through the

passage of time. Initially the dataset was normalised in the program *Weka* but due to some output errors we also normalised the data manual in Excel using the normalisation formula (see Appendix B) to ensure we were getting the same outcome, which we were, verifying a successful normalisation.

Intended Audience



(Figure 2). Our visualisation allows a curious exploration of the data, enabling students to come to their own findings and conclusions by comparing different countries, isolating data points of interest, or even using the timeline to observe change. The hope is for students to use the visualisation to assist in the exploration of a challenging dataset as Perdana, Rob, & Rohde found that allowing people to process and select multiple visualisations relevant to their current task can improve the results of their decisions (2018). By allowing students access to multiple visualisations of the data, our design can serve as a way to improve their decision making, and educate them about our topic. Using curiosity as their main drive, every user will discover a story in a unique way.

User Testing

In order for our design to tell our story effectively, it needed to control the way the information was consumed (Knaflic, 2018). To ensure this it was crucial we performed user testing. Once functioning and formatted, a small sample of 8 users were asked to assess and provide feedback on the interface. In a brief five to ten minute session, each user was asked to "explore the page" by thinking-aloud, and to "provide general feedback on how it looks and feels". This was a crucial step in realising our final design as it revealed key details that needed to be

improved and adjusted. The feedback received was then summed up into the following main aspects:

- 6/8 users were confused by the graph title
- 4/8 users felt that the sidebar was hard to notice
- 6/8 users weren't satisfied by the naming of the categories
- 8/8 users were highly pleased by the aesthetic look and feel and the ability to directly compare countries
- 1/8 users was content but bored looking at a static graph
- 2/8 users were surprised when they realised they could spin the graph; it elevated their user experience

Final Design Rationale

Animation and Interaction

Our final design was iterated according to feedback from user testing in order to best introduce our data as a visualisation that used interactive tools to tell a unique story. Ward, Grinstein, & Keim define 'Interaction' within the context of interactive data visualisation as a "mechanism for modifying what the users see and how they see it" (2010). Using this core principle, the main interactions within our design are the ability to observe the causes of death over time, the ability to compare two countries against each other as well as the ability to spin the graph to align data points with the main axis. These interactive tools allow our users to explore and engage with the data in a meaningful way, bringing the story 'visually and contextually to life' (Knaflic, 2018).

Through an animated slider with a play and pause button to examine a same country across a timeline (1990 - 2017), we demonstrate that the most common types of death in each country is either consistent, inconsistent or fluctuating/evolving. While the slider allows the user to pinpoint a particular year to examine, the play/pause function allows them to run the graph across a timeline, revealing trends between countries. Incorporating both ways of interaction with the data allows the audience to manipulate the way they digest this data, ultimately telling a unique story for each user.

The ability to compare countries against each other is another major interaction that our design features. Encapsulating the list of countries into a dropdown menu, the user has the option of

selecting two countries to compare. These selections will be displayed on the graph with one overlapping the other. Using the previous slider timeline or the play/pause functions, users can compare the changes within the countries over time. This interaction was designed as a result of user testing which found that users naturally wanted to compare data. This also assists in conveying our story to the user, allowing them to follow their curiosity. A well-made visualisation not only looks good, but also improves understanding, decision-making and can lead to better overall communication about the topic (Stewart, 2020).

The third main interactive tool is the ability to hold and spin the graph to align any given point to the main axes. This interaction allows users to customize the display of the data, creating a more unique user experience. This aims to craft a visualisation that helps 'communicating the findings' of our study through unique user exploration (Knaflic, 2015).

Our design also includes general interactions such as color coded hover states that pinpoint the exact percentage value, real time changes when dragging the slider, as well as an animated sidebar and background. These subtle animations and interactions are designed to add visual depth and assist users in the process of using the graph, providing appropriate feedback and improving the general experience.

Layout

The "Visual Information-Seeking Mantra" of 'overview first, zoom and filter, then details-on-demand' is a successful design pattern that 'makes the data accessible to different audiences' (Murray, 2017). To fulfill this principle, strict visual control was exercised to ensure that our interactions and animations represented our data in a way that was curious, clear and unique. The interface layout was built in figma to collaboratively test and prototype design decisions (see Appendix Q - S). The webpage structure uses a sidebar to introduce our topic and provide context in an efficient manner. As the focus of our visualisation is the graph itself, a sidebar facilitates the ability to hide or display the information as necessary, providing our audience with the freedom to decide how they view the information. It further limits textual overload and visual distraction.

Typeface

We chose Roboto as our typeface to illustrate a clean, formal and aesthetically simple tone. Our decision was purely based on aesthetics, as Lidwell, Holden, & Butler in their seminal 'Universal Principles of Design' state that ultimately, there is "no performance difference between serif and sans serif typefaces" (2003). This modern, young aesthetic aligns with our target audience of high school and university students who are usually of a younger median age than the rest of the population. For this purpose, Roboto sets our intended tone in a webpage-friendly manner.

Color

To further strengthen this tone, we opted for a minimal color palette, with the boldest colours highlighting information that was vital to the graph. Our take on modern aesthetics refers to the "dark mode" - white text and minimal bright colours on a dark background, a feature often found in popular applications such as Slack, Facebook Messenger and Discord. These aesthetics aim to attract our target audience with a colour scheme they are accustomed to.

Graph

The plotly.js library was used to build this graph due to the large number of resources available to us, including specific content from the tutorials. The graph was mapped in a radar format and designed in such a way that the data was plotted in a 'spiked' figure - as opposed to one with rounded points - to uphold accuracy. The sharpness draws the audience's attention to the data points that catch their eye, enhancing their ability to compare and further explore the data. Altering the axes so that the angular axes (the outward facing axes), and the radial axes (the circular axes) were spaced in intervals of either 2, 5 or 10 depending on the maximum value, further strengthened its readability. Another iteration included adjusting the maximum value of the graph. For example, some countries had values that were much larger than others which set the axis to the largest value in the whole dataset. This negatively skewed the graph when viewing smaller countries. Therefore, the maximum value of the graph was set to the maximum value of a selected country, enabling more clarity in comparing trends between countries. Exercising the design principle of constraint, we also removed objects from the chart that the user wouldn't need, such as the outer radial axis and the standard toolbar that comes with the default graphs from plotly.

References

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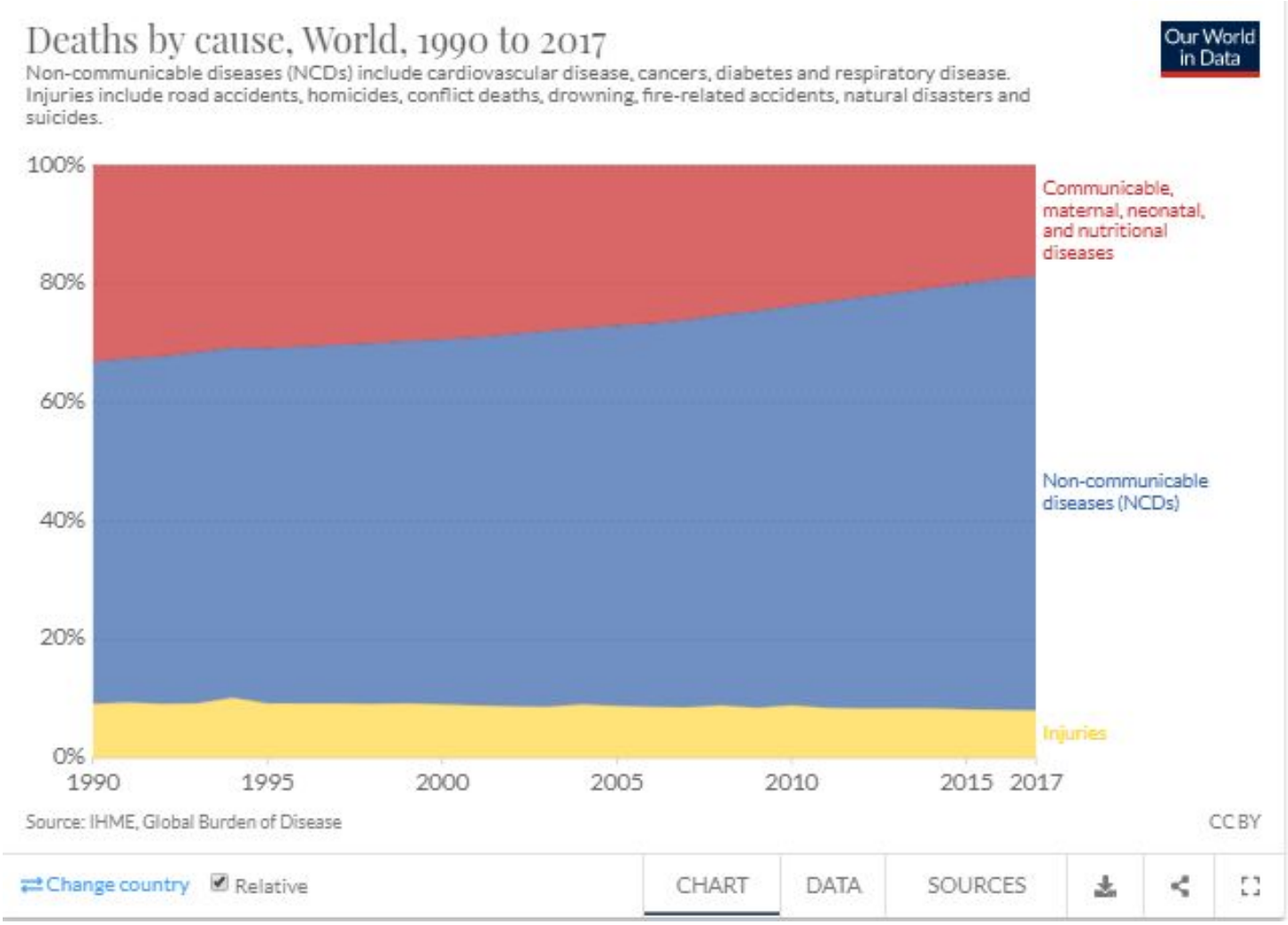
Appendix

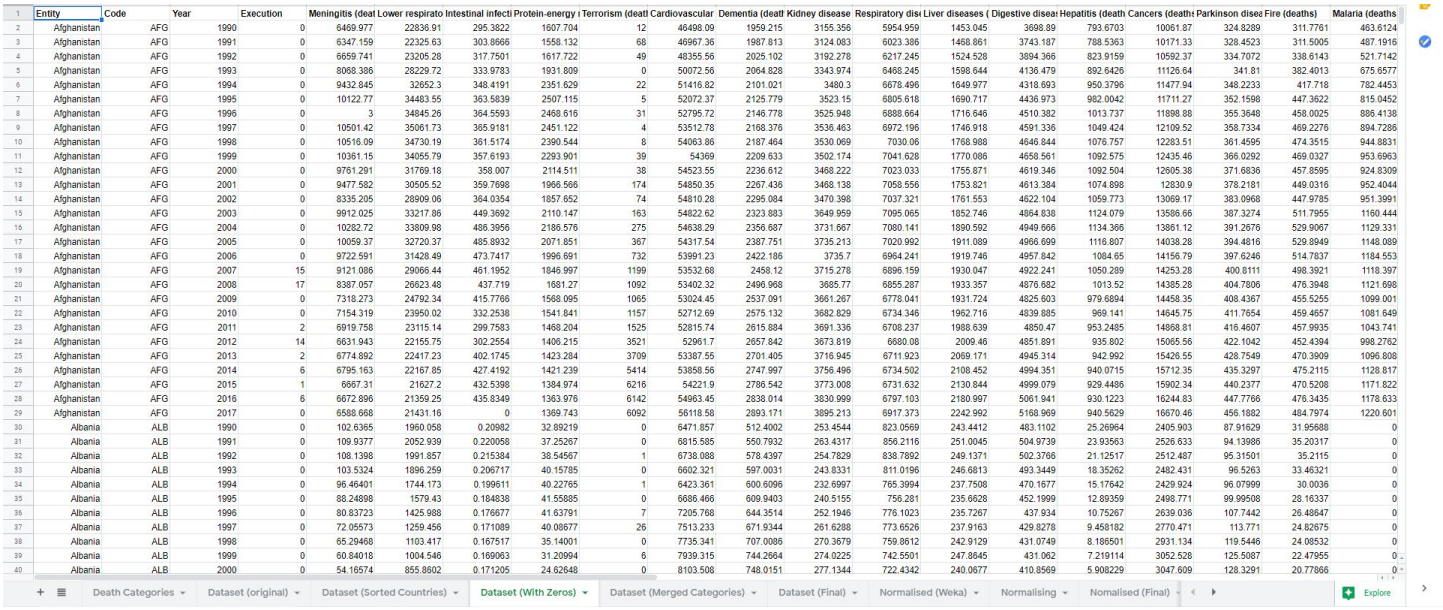
Appendix A:



Appendix B:

```
=(1-0) * ((C2 - MIN($C$2:$C$5352))/MAX($C$2:$C$5352)) + 0
```

Appendix C:



Entity	Code	Year	Execution	Meningitis (deat	Lower respirato	Intestinal infecti	Protein-energy	Terrorism (deat	Cardiovascular	Dementia (deat	Kidney disease	Respiratory dis	Liver diseases (	Digestive disea	Hepatitis (death	Cancers (death	Parkinson disea	Fire (deaths)	Malaria (deaths
Afghanistan	AFG	1990	0	6469.977	22836.91	295.3822	1607.704	12	46498.09	1959.215	3155.356	5954.959	1453.045	3698.89	793.6703	10061.87	324.8289	311.7761	463.6124
Afghanistan	AFG	1991	0	6347.159	22325.63	303.8666	1558.132	68	46967.36	1987.813	3124.083	6023.386	1468.861	3743.187	788.5363	10171.33	328.4523	311.5005	487.1916
Afghanistan	AFG	1992	0	6659.741	23205.28	317.7501	1617.722	49	48355.56	2025.102	3192.278	6217.245	1524.528	3894.366	823.9159	10592.37	334.7072	338.6143	521.7142
Afghanistan	AFG	1993	0	8068.386	28229.72	333.9783	1931.809	0	50072.56	2064.828	3343.974	6468.245	1598.644	4136.479	892.6426	11126.64	341.81	382.4013	675.6577
Afghanistan	AFG	1994	0	9432.845	32652.3	348.4191	2351.629	22	51416.82	2101.021	3480.3	6678.496	1649.977	4318.693	950.3796	11477.94	348.2233	417.718	782.4453
Afghanistan	AFG	1995	0	10122.77	34483.55	363.5839	2507.115	5	52072.37	2125.779	3523.15	6805.618	1690.717	4436.973	982.0042	11711.27	352.1598	447.3622	815.0452
Afghanistan	AFG	1996	0	3	34845.26	364.5593	2468.616	31	52795.72	2146.778	3525.948	6888.664	1716.646	4510.382	1013.737	11898.88	355.3648	458.0025	886.4138
Afghanistan	AFG	1997	0	10501.42	35061.73	365.9181	2451.122	4	53512.78	2168.376	3536.463	6972.196	1746.918	4591.336	1049.424	12109.52	358.7334	469.2276	894.7286
Afghanistan	AFG	1998	0	10516.09	34730.19	361.5174	2390.544	8	54063.86	2187.464	3530.069	7030.06	1768.988	4646.844	1076.757	12283.51	361.4595	474.3515	944.8831
Afghanistan	AFG	1999	0	10361.15	34055.79	357.6193	2293.901	39	54369	2209.633	3502.174	7041.628	1770.086	4658.561	1092.575	12435.46	366.0292	469.0327	953.6963
Afghanistan	AFG	2000	0	9761.291	31769.18	358.007	2114.511	38	54523.55	2236.612	3468.222	7023.033	1755.871	4619.346	1092.504	12605.38	371.6836	457.8595	924.8309
Afghanistan	AFG	2001	0	9477.582	30505.52	359.7698	1966.568	174	54850.35	2267.436	3468.138	7058.556	1753.821	4613.384	1074.898	12830.9	378.2181	449.0316	952.4044
Afghanistan	AFG	2002	0	8335.205	28909.06	364.0354	1857.652	74	54810.28	2295.084	3470.398	7037.321	1761.553	4622.104	1059.773	13069.17	383.0968	447.9785	951.3991
Afghanistan	AFG	2003	0	9912.025	33217.86	449.3692	2110.147	163	54822.62	2323.883	3649.959	7095.065	1852.746	4864.838	1124.079	13586.66	387.3274	511.7955	1160.444
Afghanistan	AFG	2004	0	10282.72	33809.98	486.3956	2186.576	275	54638.29	2356.687	3731.667	7080.141	1890.592	4949.666	1134.366	13861.12	391.2676	529.9067	1129.331
Afghanistan	AFG	2005	0	10059.37	32720.37	485.8932	2071.851	367	54317.54	2387.751	3735.213	7020.992	1911.089	4966.699	1116.807	14038.28	394.4816	529.8949	1148.089
Afghanistan	AFG	2006	0	9722.591	31428.49	473.7417	1996.691	732	53991.23	2422.186	3735.7	6964.241	1919.746	4957.842	1084.65	14156.79	397.6246	514.7837	1184.553
Afghanistan	AFG	2007	15	9121.086	29066.44	461.1952	1846.997	1199	53532.68	2458.12	3715.278	6896.159	1930.047	4922.241	1050.289	14253.28	400.8111	498.3921	1118.397
Afghanistan	AFG	2008	17	8387.057	26623.48	437.719	1681.27	1092	53402.32	2496.968	3685.77	6855.287	1933.357	4876.682	1013.52	14385.28	404.7806	476.3948	1121.698
Afghanistan	AFG	2009	0	7318.273	24792.34	415.7766	1568.095	1065	53024.45	2537.091	3661.267	6778.041	1931.724	4825.603	979.6894	14458.35	408.4367	455.5255	1099.001
Afghanistan	AFG	2010	0	7154.319	23950.02	332.2538	1541.841	1157	52712.69	2575.132	3682.829	6734.346	1962.716	4839.885	969.141	14645.75	411.7654	459.4657	1081.649
Afghanistan	AFG	2011	2	6919.758	23115.14	299.7583	1468.204	1525	52815.74	2615.884	3691.336	6708.237	1988.639	4850.47	953.2485	14868.81	416.4607	457.9935	1043.741
Afghanistan	AFG	2012	14	6631.943	22155.75	302.2554	1406.215	3521	52961.7	2657.842	3673.819	6680.08	2009.46	4851.891	935.802	15065.56	422.1042	452.4394	998.2762
Afghanistan	AFG	2013	2	6774.892	22417.23	402.1745	1423.284	3709	53387.55	2701.405	3716.945	6711.923	2069.171	4945.314	942.992	15426.55	428.7549	470.3909	1096.808
Afghanistan	AFG	2014	6	6795.163	22167.85	427.4192	1421.239	5414	53858.56	2747.997	3756.496	6734.502	2108.452	4994.351	940.0715	15712.35	435.3297	475.2115	1128.817
Afghanistan	AFG	2015	1	6667.31	21627.2	432.5398	1384.974	6216	54221.9	2786.542	3773.008	6731.632	2130.844	4999.079	929.4486	15902.34	440.2377	470.5208	1171.822
Afghanistan	AFG	2016	6	6672.896	21359.25	435.8349	1363.976	6142	54963.45	2838.014	3830.999	6797.103	2180.997	5061.941	930.1223	16244.83	447.7766	476.3435	1178.633
Afghanistan	AFG	2017	0	6588.668	21431.16	0	1369.743	6092	56118.58	2893.171	3895.213	6917.373	2242.992	5168.969	940.5629	16670.46	456.1882	484.7974	1220.601
Albania	ALB	1990	0	102.6365	1960.058	0.20982	32.89219	0	6471.857	512.4002	253.4544	823.0569	243.4412	483.1102	25.26964	2405.903	87.91629	31.95688	0
Albania	ALB	1991	0	109.9377	2052.939	0.220058	37.25267	0	6815.585	550.7932	263.4317	856.2116	251.0045	504.9739	23.93563	2526.633	94.13986	35.20317	0
Albania	ALB	1992	0	108.1398	1991.857	0.215384	38.54567	1	6738.088	578.4397	254.7829	838.7892	249.1371	502.3766	21.12517	2512.487	95.31501	35.2115	0
Albania	ALB	1993	0	103.5324	1896.259	0.206717	40.15785	0	6602.321	597.0031	243.8331	811.0196	246.6813	493.3449	18.35262	2482.431	96.5263	33.46321	0
Albania	ALB	1994	0	96.46401	1744.173	0.199611	40.22765	1	6423.361	600.6096	232.6997	765.3994	237.7508	470.1677	15.17642	2429.924	96.07999	30.0036	0
Albania	ALB	1995	0	88.24898	1579.43	0.184838	41.55885	0	6686.466	609.9403	240.5155	756.281	235.6628	452.1999	12.89359	2498.771	99.99508	28.16337	0
Albania	ALB	1996	0	80.83723	1425.988	0.176677	41.63791	7	7205.768	644.3514	252.1946	776.1023	235.7267	437.934	10.75267	2639.036	107.7442	26.48647	0
Albania	ALB	1997	0	72.05573	1259.456	0.171089	40.08677	26	7513.233	671.9344	261.6288	773.6526	237.9163	429.8278	9.458182	2770.471	113.771	24.82675	0
Albania	ALB	1998	0	65.29468	1103.417	0.167517	35.14001	0	7735.341	707.0086	270.3679	759.8612	242.9129	431.0749	8.186501	2931.134	119.5446	24.08532	0
Albania	ALB	1999	0	60.84018	1004.546	0.169063	31.20994	6	7939.315	744.2664	274.0225	742.5501	247.8645	431.062	7.219114	3052.528	125.5087	22.47955	0
Albania	ALB	2000	0	54.16574	855.8602	0.171205	24.62648	0	8103.508	748.0151	277.1344	722.4342	240.0677	410.8569	5.908229	3047.609	128.3291	20.77866	0

Death Categories | Dataset (original) | Dataset (Sorted Countries) | Dataset (With Zeros) | Dataset (Merged Categories) | Dataset (Final) | Normalised (Weka) | Normalising | Nomalised (Final) | Explore

Appendix D:

Entity	Year	Respiratory diseases (deaths)	Kidney disease (deaths)	Liver diseases (deaths)	Digestive diseases (deaths)	Hepatitis (deaths)	Diarrheal diseases (deaths)	DISEASE TOTAL	Protein-energy malnutrition (deaths)	Nutritional deficiencies (deaths)	NUTRITION	Lower respiratory infections (deaths)	Cardiovascular diseases (deaths)	Diabetes (deaths)	Cancers (deaths)	Parkinson disease (deaths)	Dementia (deaths)	CHRONIC	Meningitis (deaths)	Malaria (deaths)	HIV/AIDS (deaths)	Tuberculosis (deaths)	Intestinal infectious diseases (deaths)	INFECTIOUS DISEASES
Afghanistan	1990	5954.959	3155.356	1453.045	3898.89	793.6703	8817.26	23873.1803	1607.704	1667.386	3275.09	22836.91	46498.09	3361.736	10061.87	324.8289	1959.215	85042.6499	6469.977	463.6124	32.09813	4332.691	295.3622	11593.76073
Afghanistan	1991	6023.386	3124.083	1468.861	3743.187	788.5363	8588.464	23736.5173	1558.132	1616.756	3174.888	22325.83	46987.36	3362.47	10171.33	328.4523	1987.813	85143.0553	6347.159	487.1916	37.32416	4288.64	303.8666	11464.38136
Afghanistan	1992	6217.245	3192.278	1524.528	3894.366	823.9159	8924.932	24577.2649	1617.722	1678.558	3296.28	23205.28	48355.56	3445.706	10592.37	334.7072	2025.102	87958.7252	6659.741	521.7142	50.67056	4475.258	317.7501	12025.13388
Afghanistan	1993	6468.245	3343.974	1598.844	4136.479	892.6426	11976.5	28416.4846	1931.809	2001.122	3932.931	28229.72	50072.56	3563.236	11126.64	341.81	2064.828	95398.794	8068.386	675.6577	58.43305	4909.05	333.9783	14045.50505
Afghanistan	1994	6678.496	3480.3	1649.877	4318.693	950.3786	13296.45	30374.2956	2351.629	2434.014	4785.643	32652.3	51416.82	3639.708	11477.94	348.2233	2101.021	101636.0123	9432.845	782.4453	65.53118	5352.634	348.4181	15981.87458
Afghanistan	1995	6805.618	3523.15	1690.717	4436.973	982.0042	14767.43	32205.8922	2507.115	2595.907	5103.022	34483.55	52072.37	3665.834	11711.27	352.1598	2125.779	104410.9628	10122.77	815.0452	72.7354	5536.274	363.5839	16910.4085
Afghanistan	1996	6888.664	3525.948	1716.646	4510.382	1013.737	14153.89	31809.267	2468.616	2557.851	5026.467	34845.26	52795.72	3735.975	11898.88	355.3648	2146.778	105777.9778	3	886.4138	78.53365	5560.656	364.5593	6893.16275
Afghanistan	1997	6972.196	3536.463	1746.918	4591.336	1049.424	14351.35	32247.687	2451.122	2541.927	4993.049	35061.73	53512.78	3807.869	12109.52	358.7334	2168.376	107019.0084	10501.42	894.7286	83.75294	5605.857	365.9181	17451.67664
Afghanistan	1998	7030.06	3530.269	1758.986	4646.844	1076.757	14718.47	32171.188	2390.544	2480.944	4871.488	34730.19	54063.96	3868.039	12283.01	361.4595	2187.464	107494.5225	10516.09	944.8831	88.02838	5584.297	361.5174	17494.91088
Afghanistan	1999	7041.628	3502.174	1770.086	4658.561	1092.575	13990.17	32015.194	2293.901	2384.033	4677.934	34055.79	54369	3930.184	12435.46	366.0292	2209.633	107366.0962	10361.15	953.6963	87.1547	5483.225	357.6193	17242.8453
Afghanistan	2000	7023.033	3468.222	1755.871	4619.346	1092.504	12938.35	30897.326	2114.511	2202.313	4316.824	31769.18	54523.55	4012.102	12605.38	371.6836	2236.612	105518.5076	9761.291	924.8309	93.79557	5337.686	358.007	16475.61047
Afghanistan	2001	7058.556	3468.138	1753.821	4613.384	1074.898	12136.21	30105.007	1966.566	2052.33	4018.896	30505.52	54850.35	4147.69	12830.9	378.2181	2267.436	104980.1141	9477.582	952.4044	94.69159	5223.225	359.7698	16107.67279
Afghanistan	2002	7037.321	3470.398	1761.553	4622.104	1059.773	11383.25	29314.399	1857.652	1943.242	3800.894	29809.06	54816.82	4257.009	13069.17	383.0968	2296.084	103723.6998	8335.205	951.3991	110.8571	5120.448	364.0354	14881.9446
Afghanistan	2003	7095.065	3649.959	1852.746	4884.838	1124.079	13399.17	31985.857	2110.147	2211.929	4322.076	33217.86	54822.62	4398.483	13586.66	387.3274	2323.883	108736.8334	9912.025	1160.444	113.2537	5427.978	449.3692	17063.0699
Afghanistan	2004	7080.141	3731.667	1890.592	4949.666	1134.366	13574.92	32361.352	2186.576	2293.348	4479.924	33809.98	54638.29	4508.123	13861.12	391.2676	2356.687	109565.4676	10282.72	1129.331	123.7893	5487.402	486.3996	17309.6179
Afghanistan	2005	7020.992	3735.213	1911.089	4966.699	1116.807	12787.36	31538.16	2071.851	2176.987	4248.838	32720.37	54317.54	4601.6	14038.28	394.4816	2387.751	108460.0226	10059.37	1148.089	132.8935	5332.114	485.8932	17158.3597
Afghanistan	2006	6964.241	3735.7	1919.746	4957.842	1084.65	11703.38	30365.559	1996.691	2096.872	4093.563	31429.49	53991.23	4693.453	14156.79	397.6246	2422.186	107049.7736	9722.591	1184.553	133.3549	5118.503	473.7417	16632.7436
Afghanistan	2007	6896.159	3715.278	1930.047	4922.241	1050.289	10366.12	28880.134	1846.997	1941.282	3788.279	29066.44	53532.68	4691.007	14253.28	400.8111	2458.12	104402.3381	9121.086	1118.397	144.5037	4859.484	461.1852	15704.6609
Afghanistan	2008	6855.287	3685.77	1933.357	4876.682	1013.52	8994.816	27359.432	1681.27	1765.881	3447.251	26623.48	53402.32	4750.241	14385.28	404.7806	2486.968	102063.0696	8387.057	1121.698	153.2602	4589.263	437.719	14688.9972
Afghanistan	2009	6778.041	3661.267	1931.724	4825.603	979.6894	7996.53	26172.8544	1568.095	1647.863	3215.958	24792.34	53024.45	4784.225	14458.35	408.4367	2537.091	100004.8927	7318.273	1099.001	158.8861	4326.683	415.7766	13318.5997
Afghanistan	2010	6734.346	3682.829	1962.716	4839.885	969.141	7530.047	25718.964	1541.847	1619.355	3161.196	23950.02	52712.69	4825.934	14545.75	411.7664	2575.132	99121.2914	7154.319	1081.649	169.3818	4154.36	332.2538	12891.9936
Afghanistan	2011	6708.237	3691.336	1988.639	4850.47	953.2485	7053.113	25245.0435	1468.204	1543.183	3011.387	23115.14	52815.74	4954.294	14868.81	416.4607	2615.884	98786.3287	6919.758	1043.741	176.5603	4009.264	299.7583	12449.0816
Afghanistan	2012	6680.08	3673.819	2009.46	4851.891	935.802	6577.552	24728.604	1406.215	1478.263	2884.478	22155.75	52961.7	5075.766	15065.56	422.1042	2657.842	98338.7222	6631.943	998.2762	186.2386	3853.147	302.2554	11971.8602
Afghanistan	2013	6711.923	3718.945	2069.171	4945.314	942.962	6624.195	25010.54	1423.284	1496.911	2920.195	22417.23	53387.55	5238.075	15426.55	428.7549	2701.405	99599.5849	6774.892	1096.808	202.6193	3820.77	402.1745	12297.2638
Afghanistan	2014	6734.502	3756.496	2108.452	4994.351	940.0715	6489.734	25023.6065	1421.239	1494.443	2915.682	22167.85	53858.56	5416.396	15712.35	435.3297	2747.997	100338.4827	6795.163	1128.817	219.5678	3770.822	427.4192	12341.789
Afghanistan	2015	6731.832	3773.008	2130.844	4999.079	929.4486	6220.801	24784.6126	1384.974	1456.568	2841.542	21627.2	54221.9	5591.447	15902.34	440.2377	2786.542	100569.6667	6967.31	1171.822	242.363	3681.706	432.5398	12195.7408
Afghanistan	2016	6797.103	3830.999	2180.997	5061.941	930.1223	6058.453	24859.6153	1363.976	1434.741	2798.717	21359.25	54963.45	5824.42	16244.83	447.7766	2838.014	101677.7406	6672.896	1178.633	269.4783	3634.146	435.8349	12190.9882
Afghanistan	2017	6917.373	3895.213	2242.992	5168.969	940.5629	6176.201	25341.3109	1369.743	1440.662	2810.405	21431.16	56118.58	5978.462	16570.46	456.1882	2893.171	103548.0212	6988.668	1220.601	302.1669	3634.061	0	11745.4969
Albania	1990	823.0569	253.4544	243.4412	483.1102	25.26964	71.43228	1899.76462	32.89219	34.38668	67.27887	1960.058	6471.857	74.0029	2405.903	87.91629	512.4002	11512.13739	102.6365	0	1.148712	43.07944	0.20982	147.074472
Albania	1991	856.2116	263.4317	251.0045	504.9739	23.93563	72.53142	1972.08875	37.25267	38.88498	76.13765	2052.939	6815.585	80.89535	2526.633	94.13986	550.7932	12120.98541	109.9377	0	1.265158	42.52673	0.220058	153.949646
Albania	1992	838.7892	254.7829	249.1371	502.3766	21.12517	69.12315	1835.33412	36.54567	40.16955	78.71522	1991.857	6738.088	82.69099	2512.487	95.31501	578.4397	11998.8777	108.1398	0	1.381817	39.05454	0.215384	148.791541
Albania	1993	811.0196	243.8331	246.6813	493.3449	18.35262	61.89049	1875.12201	40.15785	41.88655	82.0444	1896.259	6602.321	83.45587	2482.431	96.5263	597.0031	11757.99627	103.5324	0	1.453077	35.62794	0.2062117	140.820134
Albania	1994	765.3894	232.6997	237.7508	470.1677	15.17642	75.20612	1796.40014	40.22765	41.93106	82.15871	1744.173	6423.361	83.2143	2429.924	96.07999	600.6096	11377.36189	96.46401	0	1.539251	31.72199	0.199611	129.924862
Albania	1995	756.281	240.5155	235.6628	452.1999	12.89359	37.07764	1734.63043	41.55885	43.18432	84.74317	1579.43	6686.466	87.63179	2498.771	99.99508	609.9403	11562.23417	88.24898	0	1.613057	28.74322	0.184838	118.790099
Albania	1996	776.1023	252.1946	235.7267	437.934	10.75267	30.02187	1742.73214	41.63791	43.28843	84.92634	1425.988	7205.768	95.77066	2639.036	107.7442	644.3514	12118.65826	80.83723	0	1.665741	28.50616	0.176677	111.185808
Albania	1997	773.6528	261.9286	237.9163	429.8278	9.458182	24.52751	1737.411192	40.08677	41.62935	81.71612	1299.456	7513.233	102.4887	2770.471	113.771	671.9342	12431.3941	72.05673	0	1.66213	26.95077	0.171089	100.839719
Albania	1998	759.8612	270.3679	242.9129	431.0749	8.186501	20.85857	1733.261971	35.14001	36.54349	71.6835	1103.417	7735.341	107.5661	2931.134	119.5446	707.0086	12704.0113	65.29468	0	1.838161	25.61158	0.167517	92.911938
Albania	1999	742.5501	274.0225	247.8645	431.062	7.219114	19.11268	1721.830894	31.20994	32.58636	63.7963	1004.546	7939.315	112.9344	3052.528	125.5087	744.2664	12979.0985	60.84018	0	1.481622	23.46754	0.160903	85.958405
Albania	2000	722.4342	277.1344	240.0877	410.6569	5.908229	16.32168	1672.723109	24.62648	26.03051	50.65699	855.8602	8103.508	117.6872	3047.609	128.3291	748.0151	13001.0086	54.16574	0	1.579073	21.69752	0.171205	77.613936
Albania	2001	691.7411	279.1345	238.5754	403.0653	4.837771	13.5887	1630.941041	16.24013	17.66059	33.90072	708.9939	8271.555	121.7297	3083.371	132.5842	770.6777	13088.9115	47.62144	0	1.64626	19.89262	0.174744	69.333064
Albania	2002	680.9007	284.6902	237.3285	396.7496	4.173115	11.76117	1615.603285	12.51698	13.93614	26.45312	626.6807	8679.038	128.5628	3170.199	138.3385	783.2064	13526.0254	43.49547	0	1.665094	18.86594	0.179088	64.205592
Albania	2003	675.9063	292.4843	238.2285	393.0282	4.031559	10.44817	1614.127029	9.58281	10.80698	20.47379	564.3561	9133.325	133.7458	3256.95	143.9605	793.5637	14025.9011	39.98883	0	1.746323	18.01605	0.183561	59.934764
Albania	2004	663.0239	297.3674	241.4649	394.2297	3.828603	9.691556	1609.606059	7.37737	8.603494	15.980864	506.4609	9407.92	134.6568	3322.934	149.3218	813.4779	14364.7715	36.90944	0	1.787825	17.04311	0.186194	55.924569
Albania	2005	632.8029	299.9608	245.14	395.8454	3.640278	9.145411	1586.534789	6.373357	7.626581	13.999938	453.9329	9556.096	129.3373	3356.204	151.4476	812.3295	14459.3073	33.65443	0	1.843334	15.40595	0.190568	51.094282
Albania	2006	606.5979	297.1956	253.4019	406.9564	3.517435	8.54474	1576.213975	5.48224	6.733094	12.215334	410.4133	9586.284	122.2036	3416.271	155.8756	843.3233	14534.3708	31.36179	0	1.883888	14.00793	0.189133	47.442741
Albania	2007	575.4058	286.6212	261.3732	418.0551	3.079505	8.244079	1552.778884	4.685868	5.91659	10.602478	367.9769	9371.586	110.5277	3448.943	159.2005	888.7966	14347.0327	27.72199	0	1.903448	12.66249	0.18734	42.475266
Albania	2008	568.019	291.6939	270.3128	428.7922	2.804497	8.115924	1569.738321	4.539529	5.742351	10.28188	349.8479	9620.719	106.4697	3555.762	166.3241	932.1464	14731.2091	25.37782	0	1.861314	11.9761	0.186119	39.401353
Albania	2009	560.8902	292.5145	274.029	430.7136	2.67979	7.996046	1568.823136	3.989936	5.172385	9.162321	332.9643	9712.608	103.123	3594.972	170.5249	951.2869	14865.4791	21.15414	0	1.873795	10.91782	0.185326	34.131081
Albania	2010	569.952	299.2544	278.7865	434.9095	2.78833	7.841322	1593.532052	3.778503	4.907008	8.685511	327.7897	9923.049	104.1338	3662.284	177.3805	986.4644	15181.1014	20.17242	0	1.790202	10.7809	0.182627	32.926149
Albania	2011	595.8219	309.0713	283.3852	443.8524	2.813409	7.665386	1642.609575	3.702057	4.841452	8.543509	328.9147	10222.78	109.2642	3770.34	185.7354	1041.097	15658.1313	20.07329	0	1.856386	11.00562	0.178123	32.913419
Albania	2012	618.7851	318.0253	287.4085	450.9854	2.839315	7.456469	1685.499084	3.589392	4.736623	8.325975	334.5898	10523.81	113.6071	3880.448	193.5151	1086.588	16112.558	19.7258	0	1.564296	11.15986	0.175485	32.625441
Albania	2013	645.0441	328.7562	291.8362	458.5026	2.875102	7.276927	1734.291129	3.501653	4.663257	8.16491	343.3082	10880.59	118.5703	3993.187	202.0142	1133.376	16641.0457	19.47734	0	1.527947	11.35529	0.173016	32.533593
Albania	2014	674.7495	340.4864	296.837	467.049	2.903788	7.108177	1788.933865	3.428831	4.605895	8.034726	353.9768	11269.62	124.0524	4085.153	211.5763	1190.867	17235.2455	19.2716	0	1.471734	11.58113	0.170769	32.495233
Albania	2015	695.7569	348.5893	300.5206	474.264	2.921607	6.967432	1829.015839	3.356975	4.541991	7.898966	362.6574	11559.04	127.9816	4174.659	219.2249	1239.396	17682.9589	18.99773	0	1.482189	11.69861	0.169067	32.347596
Albania	2016	715.9092	356.822	304.1545	481.1633	2.942001	6.849835	1867.840836	3.29471	4.488717	7.783427	372.2048	11846.11	131.8219	4266.162	226.7702	1289.415	18132.4839	18.79187	0	1.383728	11.82212	0.167911	32.165529
Albania	2017	736.0263	362.5372	308.7977	489.4959	2.959034	6.939839	1906.758973	3.257634	4.458938	7.716572	381.6531	12144.97	135.0015	4344.973	233.6188	1337.44	18577.6564	18.60685	0	1.2858	11.987	0	31.87965
Algeria	1990	3189.495	2048.493	1614.373	2954.212	281.6931	1661.944	11750.2101	254.0842	277.8675	531.9517	6177.939	42528.35	1882.842	9624.533	380.7148	2302.168	62896.5468	730.9037	4.414843	47.6201	779.9583	254.3581	1817.255043
Algeria	1991	3249.978	2067.614	1668.114	3034.584	278.9646	1531.543	11831.7976	253.7823	277.4141	531.1964	5846.535	43467.91	1920.446	9948.851	403.0897	2473.668	64060.4997	696.3812	4.585117	53.95139	740.9484	254.1864	1750.052697
Algeria	1992	3326.456	2089.67	1712.226	3093.665	277.9499	1456.534	11956.5209	255.3011	279.1319	534.433	5583.585	44574.14	1958.129	10240.15	424.4878	2633.24	65414.7316	669.5641	4.611008	60.97428	713.0164	254.3093	1702.475388
Algeria	1993	3415.374	2117.422	1758.092	3159.659	278.5975	1413.739	12142.8835	259.3289	283.5255	542.8544	5384.098	45858.22	2001.316	10549.08	447.1038	2813.711	67053.5288	648.7173	4.792365	68.96705	689.9548	253.7703	1666.201815
Algeria	1994	3493.405	2141.677	1804.6	3236.598	281.8487	1407.155	12365.2837	269.2675	295.042	564.3095	5230.6	46853.14	2029.728	10847.58	468.5171	3037.272	68466.8371	638.5526	4.948158	77.76877	668.8432	252.7902	1642.920928
Algeria	1995	3590.769	2172.633	1855.102	3310.116	283.62	1402.58	12614.82	281.4754	308.8134	590.2888	5079.438	48281.55	2076.615	11189.5	491.1535	3247.157	70365.4135	620.9511	4.984705	87.7394	643.5226	251.0596	1608.257405
Algeria	1996	3682.828	2210.749	1911.268	3393.089	287.901	1356.791	12842.426	278.9758	304.3536	581.3294	4966.125	49671.91	2134.855	11464.2	514.7284	3471.771	72223.5894	608.646	5.213954	98.85195	622.9919	249.6337	1585.337504
Algeria	1997	3776.932	2253.048	1978.259	3497.746	295.0324	1380.108	13181.1254	278.5712	306.3974	584.9686	4949.065	50997.76	2187.278	11784.83	537.8343	3702.78	74159.5473	612.9665	5.389781	111.1928	610.5102	256.6831	1596.712381

Appendix E:

	A	B	C	D	E	F	G	H	I	J	K	L
1	Entity	Year	Diseases	Nutrition	Chronic diseases	Infectious diseases	Drug use	Pregnancy	Political deaths	Homicide	Suicide	Misadventure
2	Afghanistan	1990	23873.1803	3275.09	85042.6499	11593.76073	153.84941	20358.822	1501.999	1279.946	740.4485	6792.9038
3	Afghanistan	1991	23736.5173	3174.888	85143.0553	11464.38136	157.39423	20686.544	3438	1524.642	762.2452	8233.6566
4	Afghanistan	1992	24577.2649	3296.28	87958.7252	12025.13386	172.14851	22764.068	4392.998	1684.809	856.9129	8304.49068
5	Afghanistan	1993	28416.4846	3932.931	95398.794	14045.50505	190.99674	30628.037	4097	1906.96	975.6038	9142.9714
6	Afghanistan	1994	30374.2956	4785.643	101636.0123	15981.87458	201.76055	33421.278	8981	2229.924	1028.742	10216.9353
7	Afghanistan	1995	32205.8922	5103.022	104410.9628	16910.4085	209.75433	34465.067	5513	2325.998	1065.582	11319.8112
8	Afghanistan	1996	31809.267	5026.467	105777.9778	6893.16275	218.15452	35665.344	3286	2626.043	1099.004	11421.6914
9	Afghanistan	1997	32247.687	4993.049	107019.0084	17451.67664	227.55901	36249.621	6726.997	2394.441	1133.02	11691.3351
10	Afghanistan	1998	32171.188	4871.488	107494.5225	17494.81588	235.96939	36442.389	12073.01	2577.706	1160.634	18625.9896
11	Afghanistan	1999	32015.194	4677.934	107366.0962	17242.8453	239.60311	36162.203	5143	2459.187	1162.148	11244.5649
12	Afghanistan	2000	30897.326	4316.824	105518.5076	16475.61047	243.61916	33494.263	5467.002	2467.781	1171.9	10809.9293
13	Afghanistan	2001	30105.007	4018.896	104980.1141	16107.67279	249.78903	33706.82	5901.007	2503.287	1191.549	10919.6136
14	Afghanistan	2002	29314.399	3800.894	103723.6998	14881.9446	260.08903	32595.922	1059	2903.789	1238.791	11884.7061
15	Afghanistan	2003	31985.857	4322.076	108736.8334	17063.0699	272.29336	36472.17	1027.0001	3195.501	1297.287	12005.1197
16	Afghanistan	2004	32361.352	4479.924	109565.4676	17509.6179	280.24002	35319.659	1318	2994.453	1321.098	12166.6731
17	Afghanistan	2005	31538.16	4248.838	108460.0226	17158.3597	290.6539	35627.099	2445	3046.351	1357.231	12794.9221
18	Afghanistan	2006	30365.559	4093.563	107049.7736	16632.7436	298.28304	35603.337	6409.001	3079.147	1370.615	12273.5625
19	Afghanistan	2007	28880.134	3788.279	104402.3381	15704.6659	305.71099	33287.914	9430.001	3029.128	1378.572	11854.0624
20	Afghanistan	2008	27359.432	3447.251	102063.0696	14688.9972	318.47826	33107.827	7858	3074.296	1411.783	11253.2285
21	Afghanistan	2009	26172.8544	3215.958	100004.8927	13318.5997	329.3376	32717.194	8627.996	3073.23	1428.808	10969.7164
22	Afghanistan	2010	25718.964	3161.196	99121.2914	12891.9936	343.371	31735.512	9274.001	3242.287	1457.158	11317.0265
23	Afghanistan	2011	25245.0435	3011.387	98786.3287	12449.0816	359.1067	31825.629	10588	3230.754	1496.192	11058.9458
24	Afghanistan	2012	24728.604	2884.478	98338.7222	11971.8602	374.4766	31322.938	14867.99	3243.819	1528.385	11292.5199
25	Afghanistan	2013	25010.54	2920.195	99599.5649	12297.2638	393.0034	31349.094	15527.97	3337.008	1574.11	11425.6024
26	Afghanistan	2014	25023.6065	2915.682	100338.4827	12341.789	411.5327	31759.117	23370	3400.623	1611.773	11953.2821
27	Afghanistan	2015	24784.6126	2841.542	100569.6667	12195.7408	428.6227	31431.985	29878.95	3881.192	1638.923	11520.4808
28	Afghanistan	2016	24859.6153	2798.717	101677.7406	12190.9882	449.4649	31088.243	34198.87	3932.312	1674.424	11558.048
29	Afghanistan	2017	25341.3109	2810.405	103548.0212	11745.4969	471.8139	31617.231	7754	3506.614	1725.625	11853.5476

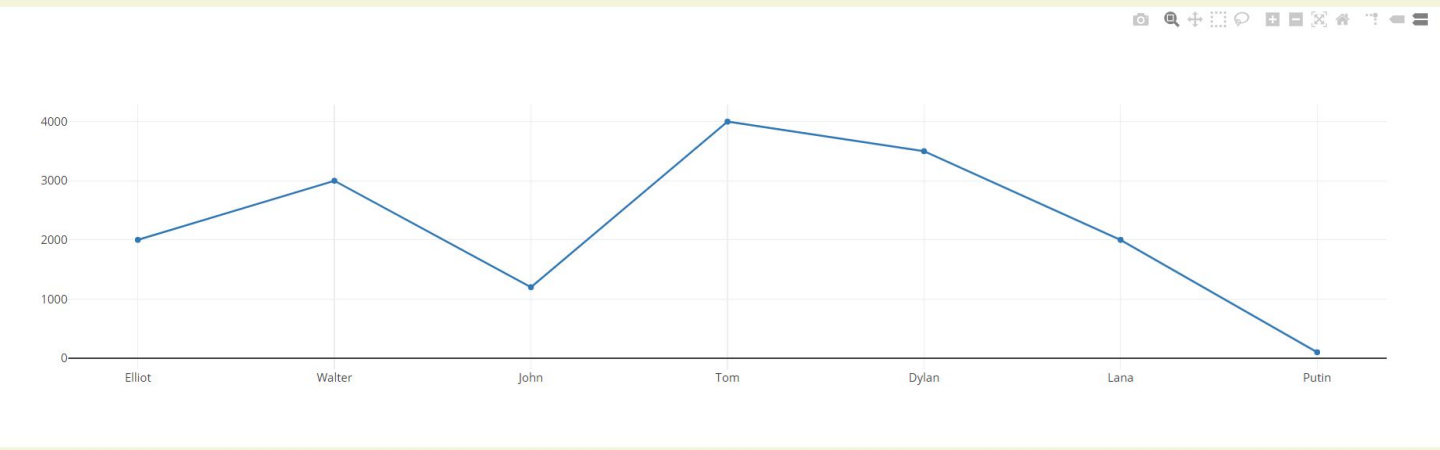
Appendix F:

Entity	Year	Diseases	Nutrition	Chronic diseases	Infectious diseases	Drug use	Pregnancy	Political deaths	Homicide (deaths)	Suicide (deaths)	Misadventure
Afghanistan	1990	0.008178	0.015026	0.01079	0.011838	0.001885	0.021182	0.00297	0.019968	0.002962	0.013611
Afghanistan	1991	0.008131	0.014566	0.010802	0.011706	0.001929	0.021523	0.006797	0.023785	0.003049	0.016498
Afghanistan	1992	0.008419	0.015123	0.01116	0.012279	0.00211	0.023685	0.008685	0.026283	0.003428	0.01664
Afghanistan	1993	0.009734	0.018044	0.012104	0.014342	0.002341	0.031867	0.0081	0.029749	0.003903	0.01832
Afghanistan	1994	0.010405	0.021956	0.012895	0.016319	0.002473	0.034773	0.017756	0.034787	0.004116	0.020472
Afghanistan	1995	0.011032	0.023412	0.013247	0.017267	0.002571	0.035859	0.0109	0.036286	0.004263	0.022682
Afghanistan	1996	0.010896	0.023061	0.01342	0.007039	0.002674	0.037108	0.006497	0.040967	0.004397	0.022886
Afghanistan	1997	0.011046	0.022908	0.013578	0.01782	0.002789	0.037716	0.0133	0.037354	0.004533	0.023426
Afghanistan	1998	0.01102	0.02235	0.013638	0.017864	0.002892	0.037916	0.023869	0.040213	0.004643	0.037322
Afghanistan	1999	0.010967	0.021462	0.013622	0.017607	0.002936	0.037625	0.010168	0.038364	0.004649	0.022531
Afghanistan	2000	0.010584	0.019805	0.013388	0.016823	0.002986	0.034849	0.010809	0.038498	0.004688	0.02166
Afghanistan	2001	0.010312	0.018438	0.013319	0.016447	0.003061	0.03507	0.011667	0.039052	0.004767	0.02188
Afghanistan	2002	0.010042	0.017438	0.01316	0.015196	0.003187	0.033914	0.002094	0.0453	0.004956	0.023814
Afghanistan	2003	0.010957	0.019829	0.013796	0.017423	0.003337	0.037947	0.00203	0.049851	0.00519	0.024055
Afghanistan	2004	0.011085	0.020553	0.013901	0.017879	0.003434	0.036748	0.002606	0.046714	0.005285	0.024379
Afghanistan	2005	0.010803	0.019493	0.013761	0.01752	0.003562	0.037068	0.004834	0.047524	0.00543	0.025638
Afghanistan	2006	0.010402	0.018781	0.013582	0.016984	0.003656	0.037043	0.012671	0.048036	0.005483	0.024593
Afghanistan	2007	0.009893	0.01738	0.013246	0.016036	0.003747	0.034634	0.018644	0.047255	0.005515	0.023753
Afghanistan	2008	0.009372	0.015816	0.012949	0.014999	0.003903	0.034447	0.015536	0.04796	0.005648	0.022549
Afghanistan	2009	0.008965	0.014754	0.012688	0.0136	0.004036	0.03404	0.017058	0.047943	0.005716	0.021981
Afghanistan	2010	0.00881	0.014503	0.012576	0.013164	0.004208	0.033019	0.018335	0.050581	0.00583	0.022676
Afghanistan	2011	0.008648	0.013816	0.012533	0.012712	0.004401	0.033113	0.020933	0.050401	0.005986	0.022159
Afghanistan	2012	0.008471	0.013234	0.012477	0.012224	0.004589	0.03259	0.029395	0.050604	0.006115	0.022627
Afghanistan	2013	0.008567	0.013398	0.012637	0.012557	0.004816	0.032617	0.0307	0.052058	0.006297	0.022894
Afghanistan	2014	0.008572	0.013377	0.01273	0.012602	0.005043	0.033043	0.046204	0.053051	0.006448	0.023951
Afghanistan	2015	0.00849	0.013037	0.01276	0.012453	0.005253	0.032703	0.059073	0.060548	0.006557	0.023084
Afghanistan	2016	0.008516	0.01284	0.0129	0.012448	0.005508	0.032345	0.067613	0.061345	0.006699	0.023159
Afghanistan	2017	0.008681	0.012894	0.013138	0.011993	0.005782	0.032896	0.01533	0.054704	0.006904	0.023751

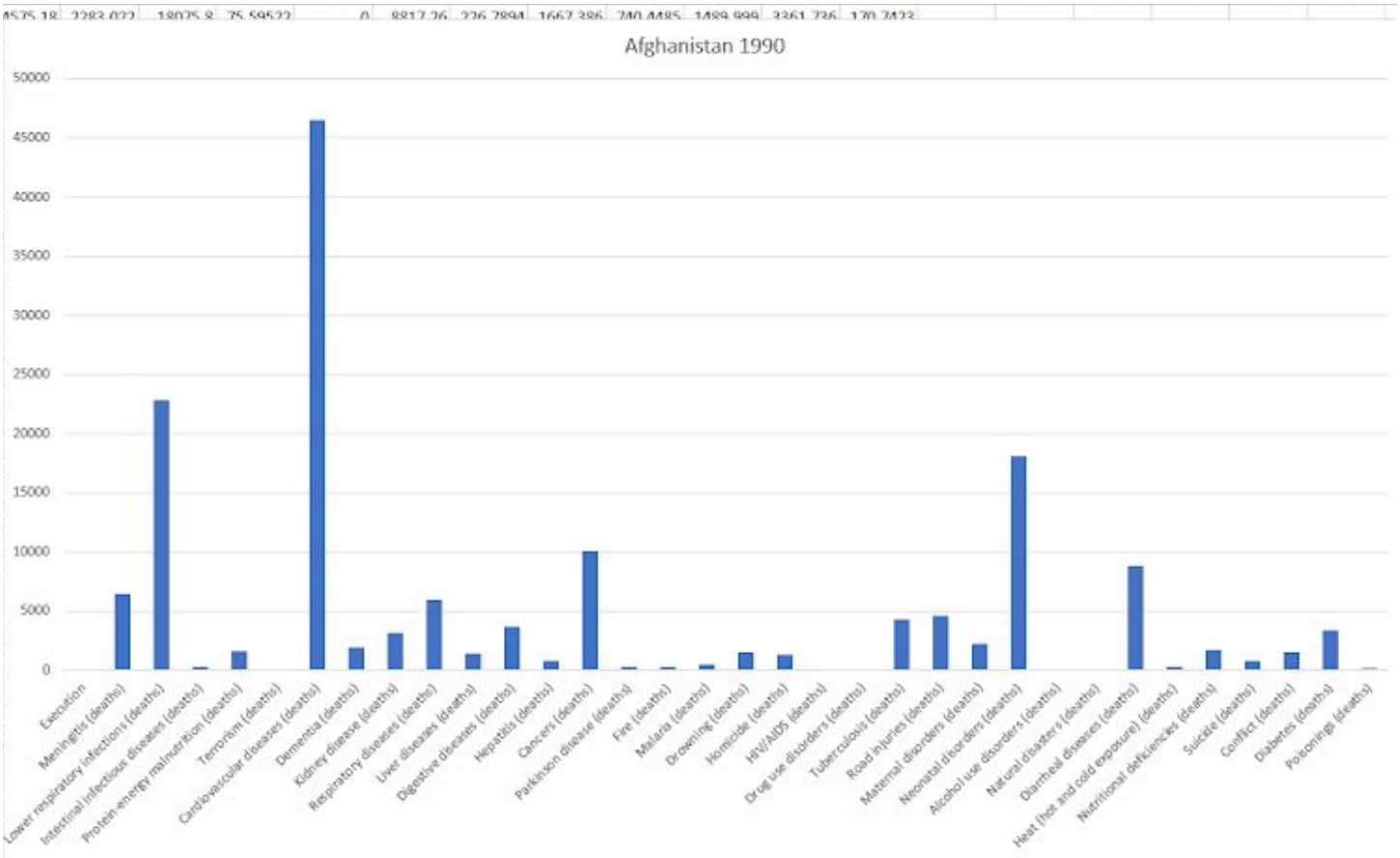
Appendix G:

Country	Year	Diseases	Nutrition	Chronic	InfectiousDisea	DrugUse	Pregnancy	PoliticalDeaths	Homicide	Suicide	Misadventure
Afghanistan	1990	7.54%	13.86%	9.95%	10.92%	1.74%	19.54%	2.74%	18.41%	2.73%	12.56%
Afghanistan	1991	6.85%	12.26%	9.10%	9.86%	1.62%	18.12%	5.72%	20.02%	2.56%	13.89%
Afghanistan	1992	6.59%	11.83%	8.73%	9.61%	1.65%	18.53%	6.80%	20.56%	2.68%	13.02%
Afghanistan	1993	6.56%	12.15%	8.15%	9.66%	1.58%	21.46%	5.46%	20.03%	2.62%	12.34%
Afghanistan	1994	5.91%	12.48%	7.33%	9.28%	1.41%	19.76%	10.09%	19.77%	2.34%	11.64%
Afghanistan	1995	6.22%	13.19%	7.46%	9.73%	1.45%	20.20%	6.14%	20.44%	2.40%	12.78%
Afghanistan	1996	6.45%	13.65%	7.94%	4.17%	1.58%	21.97%	3.85%	24.25%	2.60%	13.55%
Afghanistan	1997	5.99%	12.42%	7.36%	9.66%	1.51%	20.45%	7.21%	20.25%	2.45%	12.70%
Afghanistan	1998	5.21%	10.56%	6.44%	8.44%	1.37%	17.91%	11.27%	18.99%	2.19%	17.63%
Afghanistan	1999	6.10%	11.93%	7.57%	9.79%	1.63%	20.91%	5.65%	21.32%	2.58%	12.52%
Afghanistan	2000	6.08%	11.38%	7.69%	9.66%	1.72%	20.02%	6.21%	22.11%	2.69%	12.44%
Afghanistan	2001	5.93%	10.60%	7.65%	9.45%	1.76%	20.16%	6.71%	22.44%	2.74%	12.57%
Afghanistan	2002	5.94%	10.31%	7.78%	8.99%	1.89%	20.06%	1.24%	26.79%	2.93%	14.08%
Afghanistan	2003	5.94%	10.75%	7.48%	9.45%	1.81%	20.58%	1.10%	27.03%	2.81%	13.05%
Afghanistan	2004	6.07%	11.26%	7.61%	9.79%	1.88%	20.13%	1.43%	25.58%	2.89%	13.35%
Afghanistan	2005	5.82%	10.50%	7.41%	9.44%	1.92%	19.97%	2.60%	25.60%	2.92%	13.81%
Afghanistan	2006	5.44%	9.82%	7.10%	8.88%	1.91%	19.37%	6.63%	25.12%	2.86%	12.86%
Afghanistan	2007	5.20%	9.14%	6.97%	8.44%	1.97%	18.22%	9.81%	24.86%	2.90%	12.50%
Afghanistan	2008	5.12%	8.63%	7.07%	8.19%	2.13%	18.81%	8.48%	26.18%	3.08%	12.31%
Afghanistan	2009	4.96%	8.16%	7.02%	7.52%	2.23%	18.83%	9.44%	26.52%	3.16%	12.16%
Afghanistan	2010	4.80%	7.90%	6.85%	7.17%	2.29%	17.98%	9.98%	27.53%	3.17%	12.35%
Afghanistan	2011	4.68%	7.48%	6.79%	6.88%	2.38%	17.93%	11.33%	27.29%	3.24%	12.00%
Afghanistan	2012	4.40%	6.88%	6.49%	6.36%	2.39%	16.95%	15.29%	26.31%	3.18%	11.77%
Afghanistan	2013	4.36%	6.82%	6.43%	6.39%	2.45%	16.60%	15.62%	26.48%	3.20%	11.65%
Afghanistan	2014	3.99%	6.22%	5.92%	5.86%	2.35%	15.37%	21.49%	24.67%	3.00%	11.14%
Afghanistan	2015	3.63%	5.57%	5.45%	5.32%	2.25%	13.98%	25.25%	25.88%	2.80%	9.87%
Afghanistan	2016	3.50%	5.28%	5.30%	5.12%	2.26%	13.29%	27.78%	25.20%	2.75%	9.52%
Afghanistan	2017	4.67%	6.93%	7.06%	6.45%	3.11%	17.68%	8.24%	29.40%	3.71%	12.77%

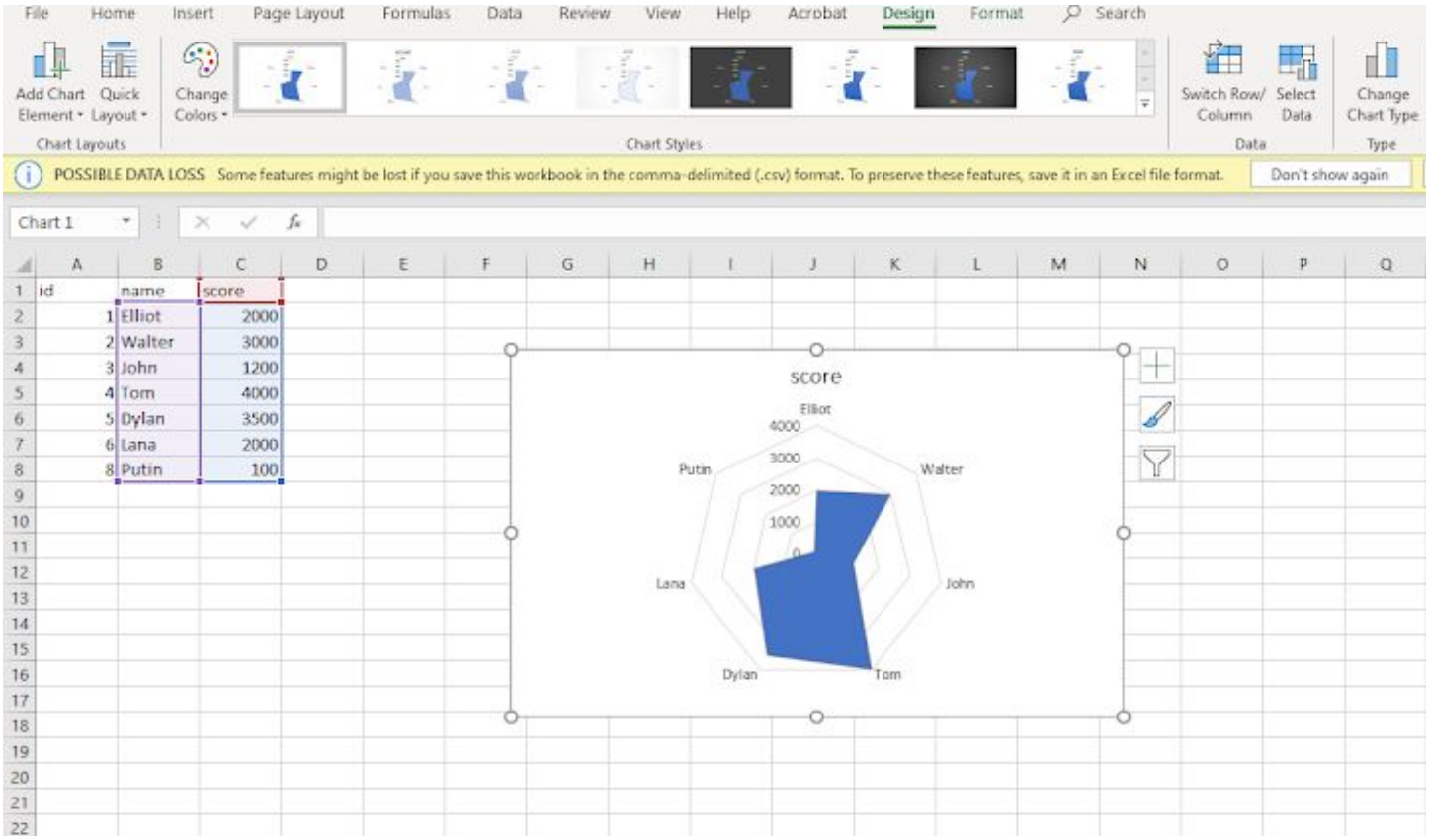
Appendix H:



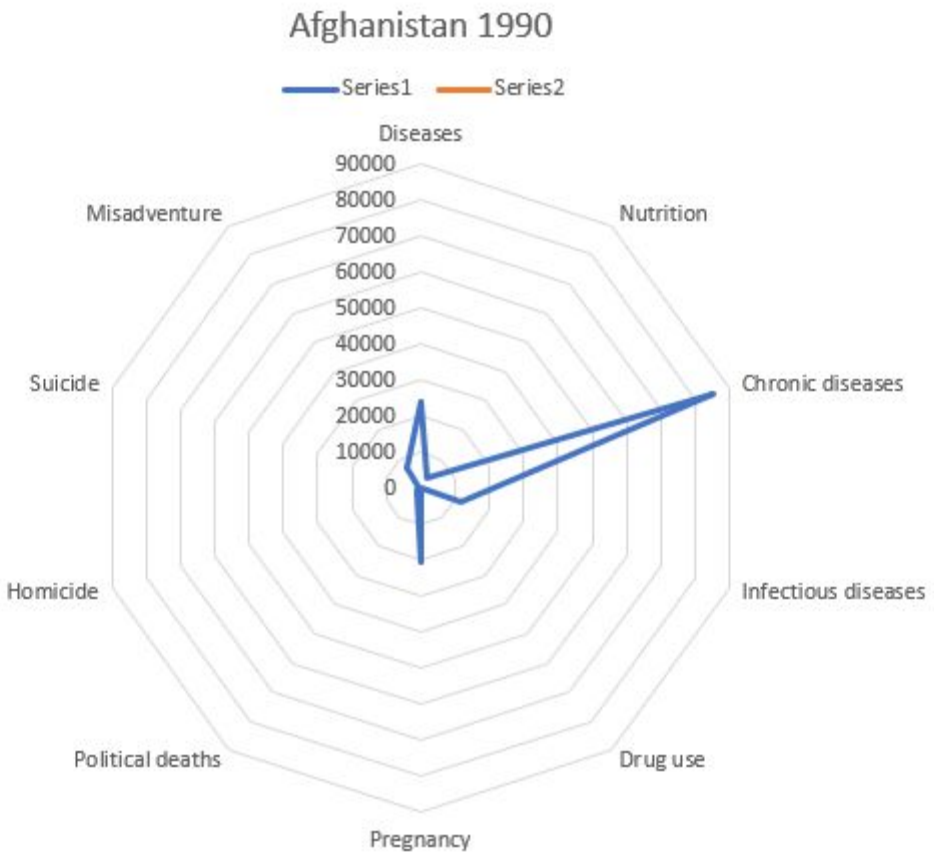
Appendix I:



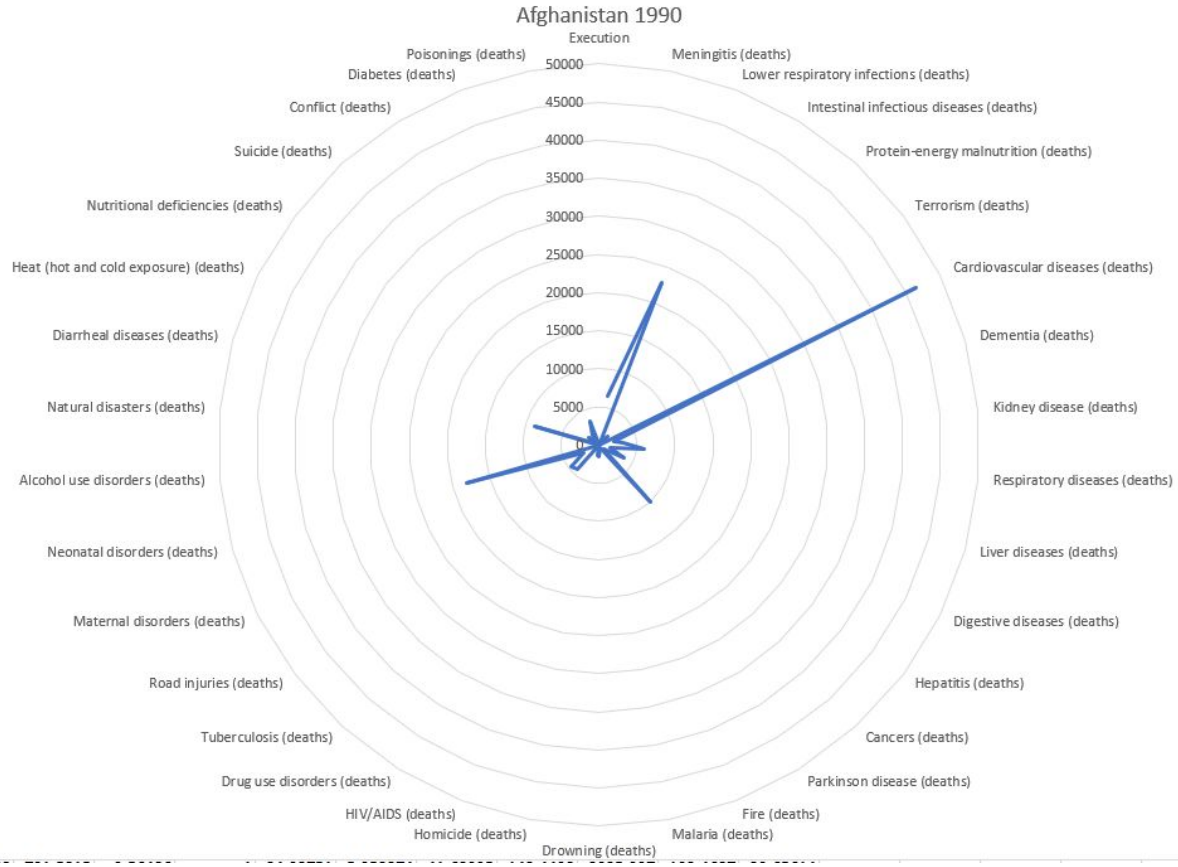
Appendix J:



Appendix K:

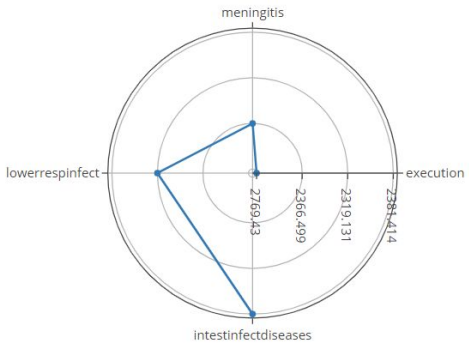


Appendix L:

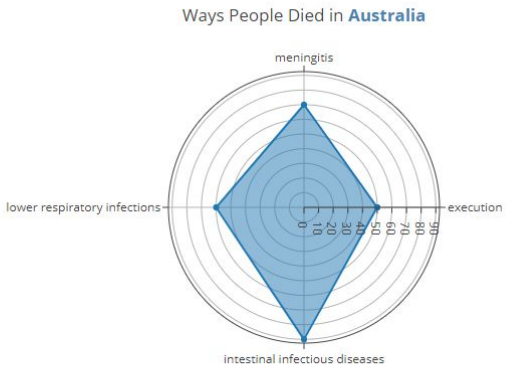


Appendix M:

```
n getTheData(csvData) {

race1 = csvData.map((row) => +row.execution);

 trace2 = csvData.map((row) => +row.meningitis);

 trace3 = csvData.map((row) => +row.lowerrespinfect);

 trace4 = csvData.map((row) => +row.intestinfectdiseases);

 traces = [trace1, trace2, trace3, trace4];

st data = [
 {
   r: traces,
   theta: ['execution', 'meningitis', 'lowerrespinfect', 'intestinfect
   // theta: csvData.map((row) => row.country),
   type: 'scatterpolar',
 }


newPlot(myDivEl, data);


.log('cool beans');

 = [
{
type: 'scatterpolar',
r: [0,10,15,24,52,43,21,12,0],
theta:['Execution', 'Meningitis (deaths)','HIV/AIDS (deaths)','Drug us
fill: 'toself',
name: 'Group A',
}
// {
// type: 'scatterpolar',
// r: [0,2366.499,69158.29,30.62114,0],
// theta: ['Execution','Meningitis','Lower respiratory infections', 'I
// fill: 'toself',
```



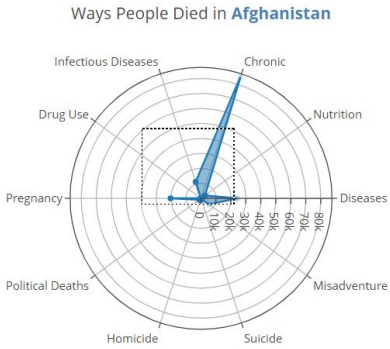
Appendix N:



Country: Australia

Appendix O:

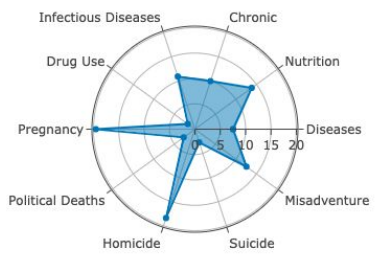
```
nction uniqueValuesInArray(array) {
  return Array.from(new Set(array));


 This is the dropdown menu
nction getThisData(csvData) {
  const countryNames = uniqueValuesInArray(csvData.map((row) => row.Country));
  countryNames.forEach((Country) => {

      const option = document.createElement("option");
      option.textContent = Country;
      selectEl.appendChild(option);
  });
  selectEl.addEventListener("change", function (e) {
      setPlot(e.target.value, csvData);
  });

  // Choose what country is going to show up when it's loaded
  setPlot("Afghanistan", csvData);


nction setPlot(chosenCountry, csvData) {
  const rValues = [];
  csvData.filter((row) => row.Country === chosenCountry)
      .forEach((row) => rValues.push(+row.Diseases, +row.Nutrition, +row.Chronic, +row.In

  // Making the radar graph using this data:
  const data = [{
      type: 'scatterpolar',
      r: rValues,
      theta: ['Diseases', 'Nutrition', 'Chronic', 'Infectious Diseases', 'Drug Use', 'Preg
      fill: 'toself',
  }];

  const layout = {
      title: `Ways People Died in <b style="color: steelblue;">${chosenCountry}</b>`,
  };

  Plotly.newPlot(dataVizEl, data, layout);
```



Appendix P:

Most common types of death in each country

The Human Development Report (HDR) is an annual milestone publication by the Human Development Report Office of the United Nations Development Programme (UNDP). This year's HDR, Sustainability and Equity: A Better Future for All, focuses on a critical element of the development picture: the interplay between sustainability and inequality.



Year:1990

Play Pause

1990 1992 1994 1996 1998 2000 2002 2004 2006 2008 2010 2012 2014 2016

Country: Afghanistan

Appendix Q:

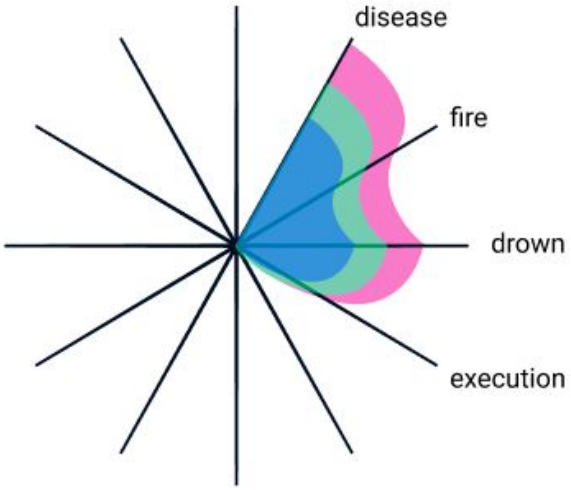
Title

About

Lorem Ipsum comes from sections 1.10.32 and 1.10.33 of "de Finibus Bonorum et Malorum" (The Extremes of Good and Evil) by Cicero, written in 45 BC. This book is a treatise on the theory of ethics, very popular during the Renaissance. The first line of Lorem Ipsum, "Lorem ipsum dolor sit amet..", comes from a line in section 1.10.32.

Details

This is a txt box with the details about an element that you clicked on.



+ add country

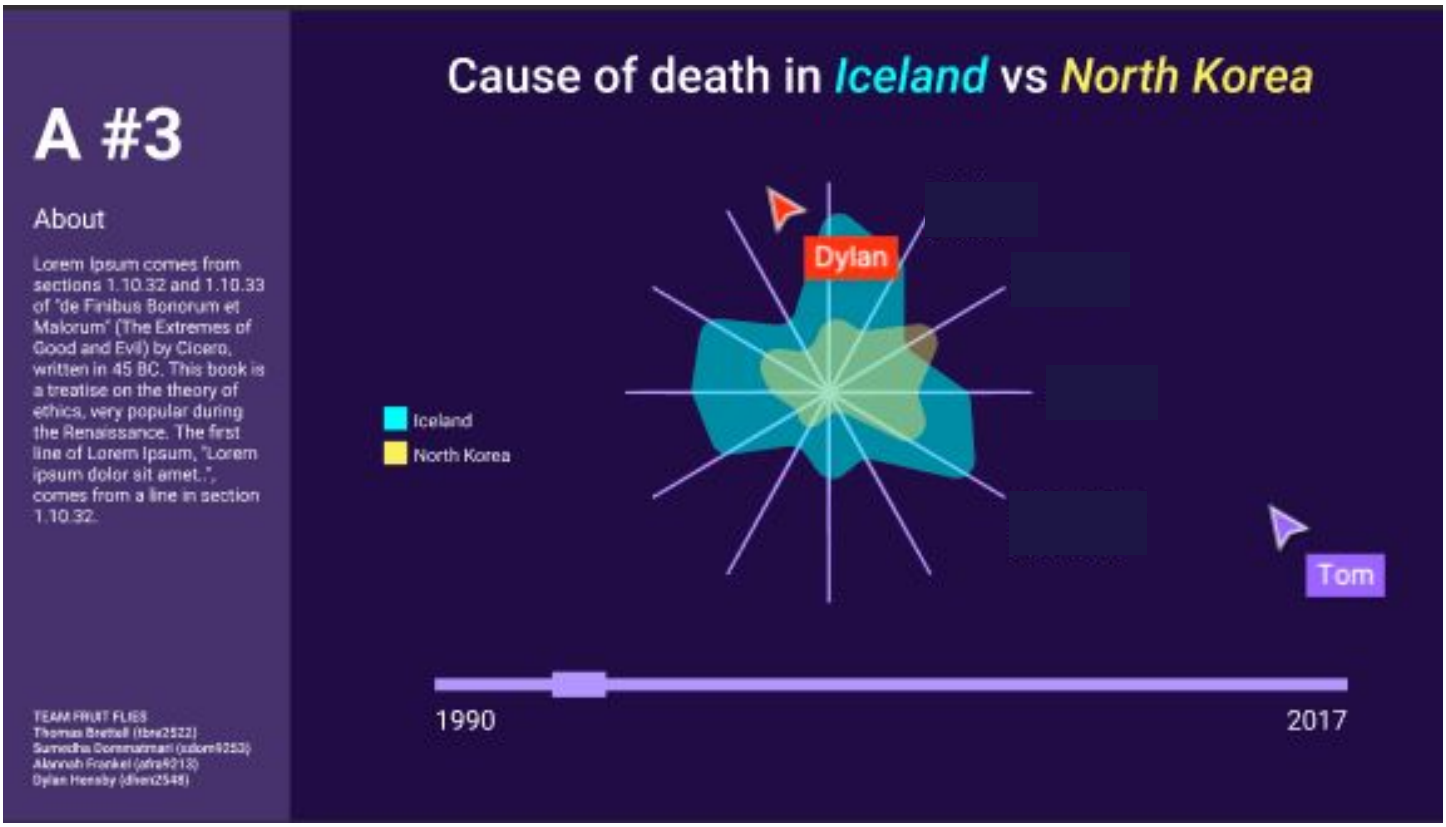
Australia

Brazil

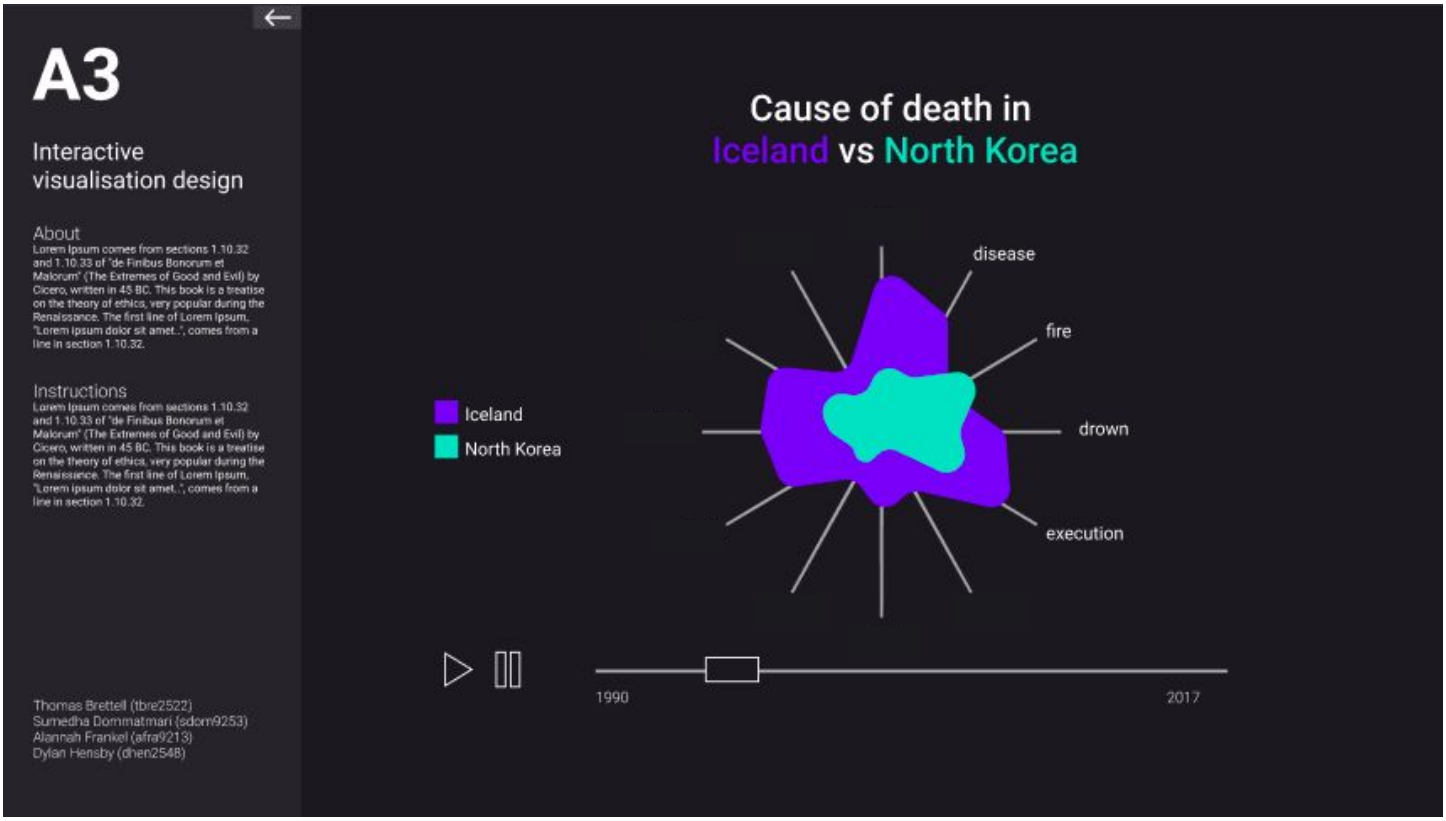
'Merica

1990 2017

Appendix R:



Appendix S:



A3

In 2017, over 55 million people lost their lives (Ritchie & Roser, 2018). In 'Causes of Death', Hannah Ritchie and Max Roser put forth a question, asking what was the reason for these deaths, and how do they differ between countries around the world (2018). Our interactive visualisation, using the data supplied from this article, provides an alternative means to compare and contrast the causes of death between countries. Collating the data down into 12 distinct categories, we have simplified the data into a way that makes it accessible to everyone.