



**TOO MANY  
TOO MUCH**

**WORLD  
POPULATION  
LIMITATION  
MOVEMENT**



## PART 1

# A RESEARCH IN WORLD POPULATION GROWTH



June 2022. How to start this, is wandering through my mind for several weeks now. All sorts of scenarios came and went, possible or not possible, very complicated and simple ones. In the end I just said to myself: forget them all and just start.

The research started very simple. Just type world population growth into your searching machine. The main source of information I use is on the website Our World in Data. Here I found the two major sources of information. The first one: World Population Growth (Roser, Ritchie, Ortiz-Ospina, Rodes-Guirao 2013). The second one: Future Population Growth (Roser, Rodes-Guirao 2019). Also the United Nations Department of Economic and Social Affairs/ Population Division website was frequently visited as a “backup source” of information.

According to the most recent estimates by the United Nations Population Division, the world population number will, next year 2023, reach the 8 billion. On my 80th birthday, which will be in 2037, the world population is estimated to amount to 9 billion human beings. When I saw this numbers for the first time and realized the numbers for what they are, 8 billion is 8.000.000.000 and 9 billion is 9.000.000.000, I lost my speech for a few moments. When I realized that the difference, this 1 billion, this 1.000.000.000 world population rise takes only 14 years, something entirely different happened. My reaction was quite strange: the sound of an alarm in the back of my mind, a bell made a clear and distinct sound.

Human beings are all alike, we all have what is called “gut feeling”. It originates in an ancient reflex, embedded in the deeper/older part of the brain. Gut feeling tells you that something is dangerously “out of order” without precisely telling you what that is. The human mind has some sort of similar thing. It can offer a solution to a very complicated question. It pops up in an instant with the first and natural answer. It is called “common sense”. I really can’t tell which of the two “triggered” my reaction, the bell ringing. Perhaps it was a bit of both. All I know is I was quite upset with my answer to the 1 billion growth of the world population number in only 14 years.

Advice for readers: read this in the same way as it was written. Writing took several months because it was a process. It started with research just because I was interested in the subject, world population growth. Until I saw the numbers, estimates and projections. That made me very worried. And the idea for the World Population Limitation Movement was born. The process started. Research, thinking and writing. Rethinking, more research and rewriting. Still going on, I doubt if it will ever stop. This is my advice: read this in the same way. Not from the beginning to the end, but in parts. Think about the part you read, do your own research, talk



about it with your friends, give it to your partner to read. Give it time to “sink in” and read some more, and maybe you start to rethink like I did and do some more research. Let the process take over.

People want children.

Why? That is a question with a lot of answers. Depending on who you ask will give you a multitude of different reasons, all relevant and valid. If you ask me the answer is: sorry, I don't have any. Still I will try to come up with an answer, although I have rewritten this section several times. Ultimately a child is the result of love between humans. That is my answer, but there is a problem. I have had my fair share of babies put in my arms to admire. Nobody told me: this is the ultimate result of our love. Still my answer to this question of why we want children remains, realizing that there are numerous other reasons you can think of.

This year the growth of the world population is 1%. This is called the “Annual Population Growth Rate”(World Population Growth, Roser, Ritchie, Ortiz-Ospina, Rodes-Guirao, 2013). The growth of the world population was at it highest in 1968 at a rate of 2.1%. The annual growth is declining. According to the latest estimations the growth in 2050 will be 0.5%. A world population growth of 1% means, in actual numbers, a growth of 66 million people in 2022. This number is called the “Annual Global Level Population Growth”(Future Population Growth, Roser, Rodes-Guirao, 2019) which is also declining. In 1987 the annual world population growth was over 90 million, in 2050 this number is estimated to an amount of 45 million. It is difficult to grasp, to envision all those millions, maybe this will help. In 2022 the world population grows with 66 million, this is the population number of the United Kingdom. This 66 million is also nearly 4 times the population number of The Netherlands, where I live.

People want children.

First there was the animalistic urge to procreate, to survive as a new species, altogether a human baby is the perfect snack for the sabre-toothed tiger. This changed into the drive to preserve and continue the family “bloodline”, in my opinion even today a male issue. And of course the need for children was also based on the fact that they will care for you when you are old, nowadays still an important driver. In our modern era there are a lot of other reasons for having children, they are very different from the ones in the past but that doesn't make them less valid.



I was born in 1957. My generation made, and is still making a Big Mess. Generations before mine also made a mess but had no idea they did. My generation became aware of the mess produced by former generations, became aware of our current situation, still we keep making the same mess. That's why I call it a Big Mess. Because my generation knows, or could have known if we had paid attention, but frankly my generation is not interested. The "Global Population Number"(Future Population Growth, Roser, Rodes-Guirao, 2019) doubled in 39 years. In 1960 the 3 billion was reached and in 1999 the number was 6 billion. Nobody paid attention or even showed interest, myself including, because then and even today we are too busy consuming.

The annual growth of the world population will eventually decline to a percentage under 0.1%. The ultimate result is that the world population will stop growing. All worldwide projections and estimations agree with this conclusion. When this will happen and what the ultimate highest world population record number will be, nobody can tell. There is only disagreement. "The Global Population Number will amount to 10 billion in 2057"(Future Population Growth, Roser, Rodes-Guirara, 2019). There is no disagreement here. Demographic projections over the next 20-30 years are usually considered to be correct. Population projections get less reliable over longer periods of time. When I started to write weeks ago my first encounter of long term estimates was a world population of 10.4 billion in 2100. The second one was 10.7 billion. A few weeks later I saw a quite different estimate of 11 billion in 2087. All estimated by United Nations; after that one I stopped looking for new estimates. There is no scientific consensus regarding how humanity will enter the next century. Estimations are very different. Projections depend on "what scenario"(World Population Growth, Roser, Ritchie, Ortiz-Ospina, Rodes-Guirara, 2013) calculations are based. Depending "from what angle" you are looking at the long term future. They all agree on one thing though: what we do today makes a difference.

People want children.

I never felt this desire, I never had this wish. When, 30 years ago, I met the love of my life and married her, she had (luckily) no desire for having children either. We are a family without children and perfectly happy with it. We made a deal for the use of anti-conception. For 10 years my girl would take care of that by taking "the pill". Then it would be my turn. Around 15 years ago I had my vasectomy. Problem solved.

2015 was the year of the European refugee crisis, more than 900.000 people fled from Syria, Afghanistan and Iraq. Europe was, starting in 2013, at it highest number in 2015, flooded with



refugees. On August 31st the Prime Minister of Germany, Angela Merkel, stepped up to the microphone and said: “Wir schaffen das”. She simply said: we will do this, we will fix this. And she did. Angela Merkel has resigned from office, well deserved after dedicating herself for so many years to serving the German people. I keep wondering if she would give the same answer. To the question what to do with a Global Population Number of 10 billion in 2057.

My aim is to start a movement, certainly not a political one. Politics is not the answer to the questions asked. In politics there is always something urgent to attend to, and after that something more urgent. With the current use of social media, politics is not able to have a few moments of reflection between the urgent and the more urgent. Humankind itself, humans, ordinary people using their gut feeling and common sense have to give an answer to the question of 10 billion in 2057. And do this, fix this, like Angela Merkel did.

There are families without children. There are families with lots of children. There are single woman with no children and single woman with children. Everything and anything is possible. The average number of children per woman in a population can be measured and calculated, and has been for many years. It is commonly known as fertility rate. Today the average number of children per woman on our planet is 2.3. In demographic science it is called the Global Average Fertility Rate, or “Total Fertility Rate”(Fertility Rate, Roser, 2017). Every woman worldwide gives birth to, as an average number, 2.3 children. In pre-modern era a fertility rate of 4.5 to 7.0 per woman was common. At that time the very high mortality at young age kept population growth low. As a result to improved healthcare and a higher living standard, mortality rates decrease and accelerated population growth starts. For the same reasons fertility rate starts, very slowly, to decline. Eventually to a 5.0 children per woman in 1972. From 1972 to today the fertility rate has declined further and faster than before, to a “Total Fertility Rate”(Fertility Rate, Roser, 2017) of 2.3 children per woman today. Concluding this section, fertility rate is a key factor for the decline of world population growth.

There is only a “female touch”, not a male one. The connection between woman and child is unique. Simply because a woman carries the child in her body from conception to birth. As a male it is maybe possible to imagine such a connection, but to really understand you have to physically feel it, impossible for a male body. This is why a woman has her female touch. For the same reason I am convinced that, after birth, the connection between mother and child is fundamentally different from the connection as father of the child. The way I wrote this last sentence explains it better than everything else. In my opinion, as a male, I think that a woman



is “better equipped” to answer questions regarding the future of her children. What I would like to ask every woman reading this: please do not stop reading and use your female touch. We will need it.

Although the global average fertility is 2.3 children per woman, differences in the fertility rates of separate countries are substantial. At the low end of the scale there is Singapore and Malta with a rate of 1.1, the lowest rate is in Hong Kong at 0.9 children per woman. The high end of the scale is formed by Mali at a rate of 5.7, Somalia at 5.9 and the top rate of 6.7 children per woman is in Niger. Substantial differences.

New scientific research has revealed a strange phenomenon. “Fertility is first falling with development and then rising with development”(Fertility Rate, Roser, 2017). A new and astonishing scientific result, contrary to the common opinion that fertility rate is declining. Development is measured by the “Human Development Index”(Fertility Rate, Roser, 2017). This is a mix of calculations using indicators, which are the life expectancy at birth, education and living standard. Since pre modern era human development and progress have been apparent worldwide, today even the highest possible scores are reached. And that is when it happens. If the Human Development Index reaches the very high level of 0.85 to 0.9, fertility rate, the number of children per woman rises. Contrary to the estimated long term decline of fertility rate.

People want children.

When people have children they all want the same: they want their children to have a better life. If you realize that children born today will live to the end of this century and there is only disagreement in long term projections of their future; there it is. The core of the paradox, the dilemma we are facing. One thing matters. What we do today is of paramount importance to the quality of our children’s future. I will not face this future, maybe some of the readers will, but the majority won’t. This isn’t addressed to my generation, but to the next ones, to ordinary people who want children, or already having one or more and thinking about having some more. Today the ordinary people all over the world are the key factor for their children’s future. The fertility rate is a key factor for the decline of world population growth. Key factor to the fertility rate is the “Replacement Level”(Fertility Rate, Roser, 2017), which is 2.1 children per woman. When the Global Average Fertility Rate is 2.1 children per woman, the world population will, eventually, stop growing. There is worldwide agreement here. There is only disagreement at what moment in the future this will happen and what the “all time record” of the world population number will be.



To show you that fertility rate is a key factor, there is an United Nations long term projection of population growth available. “The United Nations Population Division uses, in this scenario”(Future Population Growth, Roser, Rodes-Guirao, 2019), 4 different fertility rates projected to the year 2100. They are called “Medium Variant, High Variant, Low Variant and Constant Fertility”(Future Population Growth, Roser, Rodes-Guirao, 2019). The Medium Variant is the projection that is seen as the most likely one. The Medium Variant projects a fertility rate of 2.0 children per woman in 2100, and a world population just over 10 billion in the same year. The High and Low Variants are based on the Medium Variant. The High Variant projects a fertility rate of 2.5 children per woman in 2100, and a world population of just under 15 billion in the same year. The Low Variant projects a fertility rate of 1.5 children per woman in 2100, and a world population of 7 billion in the same year. To make another understatement of the year: that is quite a difference. And shows perfectly why fertility rate is the key factor to future world population growth or decline. And last but certainly not least, the Constant Fertility. “The Constant Fertility is an illustrative scenario that plays out how the world population would change if the fertility rate remains the same in every country”(Future Population Growth, Roser, Rodes-Guirao, 2019). From today all the way to 2100. This scenario, not intended to be realistic; but who is really sure of this; projects a world population number over the 20 billion in 2100.

People want children.

For the last time this sentence is written. For me this is the most difficult part, it took a lot of thinking and rewriting, and considerable time and effort to find the proper words. For humankind, wanting and having children is the most natural thing, as natural as breathing. Please understand: all I wrote and all you read so far is not meant to tell you to behave against your nature. That is not my intention at all. My aim is to provide information, in my opinion crucial information regarding the possible future your children are going to have. Most families on this planet don't decide to have children, they just have them. It is not an issue for discussion, it is a natural thing. What I am trying to accomplish here: I am asking you to think about the size of your family, to think about the number of children you are going to have. Because that will matter. The number of children per woman, every woman you can think of on this planet, will be the key factor for the quality of the future for children born today. And ultimately the key factor that will determine the future of humankind as a species on this planet.

To see how the world population is “spread out” on our planet we first have a look at the “top 5” countries that have the largest population number. For several centuries China has been the most populous country, today at 1.43 billion. India is second best, but not for long. It is expected





that India will overtake China within the decade. Today India has an estimated population number of 1.41 billion. Between the “top 2” and the rest there is a huge gap. Number 3 on the list is the United States of America at a population number of 337 million. The difference with the “top 2” is evident, over 1 billion. China and India each have a population number that is over 4 times bigger than the population number of number 3, The United States of America. Concluding this section, number 4 and 5 are Indonesia at 274 million and Pakistan at an estimated population number of 231 million.

In the 1980s having children in Singapore was challenging. First there was the “stop at two” issued by the government. Hospital bills were raised when your third child was born. Maternity benefits were only for two children. In 1987 the government changed direction and issued “have three or more”. Larger families received priority for schools and housing.

The second way to look at the spreading of the world population is by looking at the continents. One of the scenarios for projections of future world population growth is adding up the population numbers of Asia and Africa. Let’s start with today, looking at the estimates of 2022. The world population number of 2022 is, in this scenario, estimated at 7.98 billion. “Asia has an estimated population of 4.72 billion and Africa has 1.43 billion”(Future Population Growth, Roser, Rodes-Guirao, 2019). Added together makes 6.15 billion. Now, the math is very easy: the rest of the planet has an estimated population number of 1.83 billion. To use, again, the understatement of the year: that is quite a difference. The combined population number of Asia and Africa is 3.4 times bigger than the population number of the rest of the world we live on. In the projections of this scenario this factor will grow and grow.

Governments are aiming to keep national population numbers in “the safe zone”. Not too many and certainly not to few. Singapore is just one example, population targets are very common. To secure a stable financial structure. Aiming for a higher or lower fertility rate for certain groups in society. For planning future investments in medical care, infrastructure, housing and industry. For calculating future tax revenues. Even regulations to determine which groups in society could reproduce; and which groups could not; are well known in human history.

The scenario Asia plus Africa projected to the end of this century is quite stunning. First let us have a look at the estimations for 2050. The world population number of 2050 is estimated at 9.71 billion. “Asia has a population number of 5.29 billion and Africa is estimated at 2.49 billion”(Future Population Growth, Roser, Rodes-Guirao, 2019). Added together makes 7.78 billion. The rest of the planet has a population number of 1.93 billion. For the first time ever



the European continent is estimated to have a declining population number. The combined population number of Asia and Africa is 4 times bigger than the estimated population number of the rest on the planet.

In The Netherlands having children is promoted by the government. For every child there is financial support, as a social service, from birth up to the age of 18. There are several ways of daycare, also financially supported by partly refunding the costs through tax advantages. Maternity leave is substantial. Before birth the mother-to-be has 6 weeks leave and after birth 10 weeks. Fully covered by maternity benefits. The partner of the to-be-mother also has maternity leave. For 5 days after birth, fully covered. Since 2020 partners can also have extended maternity leave, 5 more weeks, for 70% covered by maternity benefits. This year the government decided that daycare for children will be almost cost free in 2025, the government will pay all the bills up to 96%.

“By the end of the century, more than 8 out of 10 people in the world will live in Asia or Africa”(Future Population Growth, Roser, Rodes-Guirao, 2019). Fasten your seat belts, ready for take-off. The projections for the scenario Asia plus Africa for the year 2100. The United Nations Population Division estimates the world population number of 2100 at 10.35 billion. Asia has an estimated population number of 4.67 billion, for the first time declining, substantially from the number of 2050. Africa is still growing and growing, in 2100 the population number is estimated at 3.92 billion. A new record is set, one continent on this planet has a growth in population of almost 1.5 billion in 50 years, absolutely stunning. Asia plus Africa together makes 8.68 billion. The rest of the planet has an estimated population number of 1.67 billion. Decline of population number also started in 2 more continents, which are North and South America. The combined population number of Asia and Africa is 5.2 bigger the population number of the rest. The decline in Europe is now evident, the population number estimated for 2100 is 157 million below the estimated population number of today. Concluding this section: 8 out of 10 humans of the global population will live in Asia or Africa in 2100.

Humankind has programmed itself. The economic system, the social system, the political and financial system; even the human mindset is programmed for one thing only: growth. More, not less. Humankind is addicted to growth and unable to behave otherwise. At the start of the second millennium, around 20 years ago, the Intergovernmental Panel on Climate Change brought the new message. For the first time there was worldwide consensus: humankind is the main driver of climate change. The message was very simple: stop behaving like this. Simple, loud and clear. In 2002 6.4 million cars were driving around in The Netherlands. Today,



20 years after the message, we have 8.5 million cars moving about in The Netherlands. We are incapable to not grow, we simply don't want to. We do not want to have less, we are addicted to having more.

What do you think your government will do when population numbers start to decline? If you live in Europe, what do you think the European Union will do when tax revenues will go down and there is less to spend instead of more. With decline of population number the composition of the population will change. "After 35 years of the "one child policy" the People's Republic of China was faced with a major part, one third of the population above the age of 60"(World Population Growth, Roser, Ritchie, Ortiz-Ospina, Rodes-Guirao, 2013). This was one of the main reasons for canceling the policy in 2015. In 2016 the "two child policy" was introduced, replaced by the "three child policy" in 2021. What do you think the United States of America will do when there are no people available to fill in the necessary jobs required for growth. On January 23rd 2023 Prime Minister Kashida in Japan made a statement. Due to decreasing birth numbers in Japan, he announced to double the budget for the increase of the fertility rate. What do you think your government will do when national population numbers start to decline? Old habits die hard.

This is the main reason for calling this a movement. No politics. A movement of ordinary people. Ordinary people on this planet who want children and will have them. I sincerely hope they will read this, or hear about it from relatives or friends. Talk about it with their loved ones. I hope they will understand: they are the key factor for the quality of their children's future.

During my ongoing search for information I "stumbled" on something. Something complicated but important to know. It is called "Population Momentum"(Population Momentum, Roser, 2019). Fertility rate is estimated to decline below replacement level in this century. So, you would think the world population will decrease. That will not happen yet, and will take a long period of time. Population momentum causes the delay. A delay of several generations, many decades. "Because the annual birth number, the number of babies born in a year, will not decline in the same manner as fertility rate"(Population Momentum, Roser, 2019). That is population momentum. The result is that the world population will not decrease for several generations, even if fertility rate stays below replacement level. "For the world population to decrease the age structure, the age distribution, will have to change into a new balance"(World Population Growth, Roser, Ritchie, Ortiz-Ospina, Guirao, 2013). And that is very slow process. In other information sources this process is called population inertia or population lag effect. So, suddenly, this is not only about children born today, it's even about their children too, even concerns next generations. For me, after 4 months of writing, research and rewriting, this



is new and came as surprise. Also surprising is that the author of “Population Momentum”, Max Roser, in this article states: “In all of this it is important to keep in mind that these are projections and how the future will actually play out will depend on what we are doing today”. I agree, it doesn’t mean it changes anything I have written so far. Oh no, not one bit. Only the time frame changed, dramatically.

This is the end of the original plan. A research in world population growth. Even during my writing new developments and estimations were published. The most disturbing one was on November 15th 2022. The announcement was on all major news channels: The world population number has reached the 8 billion. All projections and estimations said this was going to happen next year, not this year. This was the one that made me seriously doubt all estimations and projections I found. How can demographic science make any solid estimations when nobody saw this coming? The global human population is growing faster and harder than predicted. That is the only logic conclusion I can think of, after November 15th. So, I did my last bit of research. In The Netherlands the fertility rate is increasing. In 1998 the fertility rate was 1.59 children per woman, in 2022 fertility rate was 1.67 children per woman. Disturbing numbers, contrary to all United Nations demographic publications.

This is the end of Part 1, the original plan. Concluding this I think of something I wrote when the process was barely started. “There is no scientific consensus regarding entering the next century”(World Population Growth, Roser, Ritchie, Ortiz-Ospina, Guirao, 2013). Projections depend on what “scenario” calculations are based, depending “from what angle” you are looking at the long term future. They all agree on one thing though: what we do today can make a difference. If you, dear reader, understand this now: that will mean my intention is accomplished. It’s up to you now. It will be the future of your children and grandchildren.

**PART 2**

**WHAT YOU GET WHEN YOU  
COMBINE NEAR FUTURE  
POPULATION GROWTH WITH  
CURRENT HUMAN BEHAVIOR**



The research for this part 2 started again on the website Our World in Data. The main part of information comes from three sources: “Meat and Dairy Production” by Ritchie, Rosado, Roser 2019; “Land Use” by Ritchie, Roser, 2019; “Environmental Impacts of Food Production”, Ritchie, Roser, 2019. Other sources are the Earth Overshoot Day website, International Union for Conservation of Nature and Natural Resources website and Global Footprint Network.

People want protein.

Meat consumption increases as living standard increases. One of the strongest factors to determine how much meat people eat is how much money they have. “This is a so-called strong positive relationship: the richer a country is, the more meat the average person typically eats”(Meat and Dairy Production, Ritchie, Rosado, Roser, 2019). In 2014 the average person in the world consumed around 43 kilograms of meat. At the top of the list are the high-income countries, number one is Australia with an average meat consumption of 116 kilogram per person. The United States of America are second place with 110 kilogram. The bottom of the list is taken by India with an average meat consumption of 5 kilogram per person. Meat has become an important source of nutrition for many people, “Big Macs”, “Chicken Wings” and “Spare Ribs” are all over the place. Global demand for meat is growing, over the past 60 years meat production has increased 4-fold. The world population number 60 years ago was 3.12 billion. Today, according to the news channels on November 15th, the 8 billion was reached. To conclude this section: in the last 60 years the world population more than doubled, meat production quadrupled.

People want protein.

“World milk and dairy production is almost entirely derived from cattle, goats, sheep, buffaloes and camels”(Meat and Dairy Production, Ritchie, Rosado, Roser, 2019). In developed countries almost all milk and dairy is produced by cattle. In recent decades developing countries have increased their share in production, by a substantial increase of producing animals. The demand for milk and dairy is rising with the increase of living standard. It’s the same phenomenon as meat demand, richer countries tend to consume more milk and dairy per person. Worldwide milk and dairy production increased 59% over the last 30 years.

People want protein.

“Livestock counts are measured as the number of live animals at a single point in any given year”( Meat and Dairy Production, Ritchie, Rosado, Roser, 2019). So, the following numbers



of producing animals are always present at any moment, on this planet, you can say “24/7”. As a result of the growing demand of meat, milk and dairy the global number of cattle, on this planet today, has reached the 1 billion. This number will increase in the near future, due to growing demand of protein only. Even if the global human population would have stopped growing today; and in a non-existent scenario would stay at 8 billion; demand and production of meat, milk and dairy will increase. As the number of producing animals will increase. If you think this number of 1 billion is impressive, remember cattle is just one of many sources of production. Two other sources that are estimated are goat and sheep. I did not expect they would be present in the same amount, but they do actually. The estimated global number of goat, as well as sheep, is also 1 billion. So we already reached 3 billion producing animals with cattle, goat and sheep only. Consider this number to be growing substantially, due to increasing demand and a substantially growing human global population in the near future. And the really big numbers are still to come.

I once saw on BBC, the “national” broadcasting company in the United Kingdom, a program featuring Adeel Akhtar. He is a, born in London, major actor who won the British Academy Television Award in 2017. If you see him for the first time, like I did, you would think he is born in India. He certainly looks that way and also has the typical Indian/English accent. In this program he was looking at a group of men behaving stupid. Not just a bit stupid; behaving stupid beyond imagination, behaving outrageously insane. He looked at them, kept his face without any expression, looked straight in the camera and said: “That is mental”.

Looking at our planet’s surface can provide a way to look at humanity’s demand for protein from a different perspective. Earth surface consists of 71% salt water and 29% land surface. This 29% of the planet is called global land, and is measured as 149 million square kilometers. Of this global land 29% is uninhabitable, not suitable for human purposes. Think of deserts, mountains, dry salt flats, beaches, glaciers and sand dunes. All other land surface is what is called habitable land. So, the land surface suitable for human purposes is measured as 106 million square kilometers. A much smaller share than you would expect, just 1%, is what humankind uses to live, have children, sleep, work and move around. Yes, I was surprised too. Just 1% is “built up urban area which includes cities, towns, villages and all other human infrastructure”(Land Use, Ritchie, Roser, 2019).The demand for protein is a quite different matter. Half of all habitable land surface on our planet is used for agriculture.

Although I have been in the United Kingdom many times I never heard the phrase used by Adeel Akhtar. When I heard it the first time I did not understand it, but instead I couldn’t stop laughing and laughing. So maybe I did understand without knowing why. After some research,



I understood it is a commonly used phrase in the United Kingdom. Looking in the dictionary there are several meanings of the word mental. Mental means relating to the state of health of a person's mind. Or relating to the process of thinking. According to the dictionary: if you say that someone is mental, you think they are mad. It is a modern substitute with the older phrase: "daft as a brush", which means behaving very silly. It is a better phrase for today, because "silly" is an understatement for the behavior of several people I can think of, and maybe for the behavior of human kind in general today.

Returning to the planet's surface, again the mathematics is easy. Humankind uses 1.5 million square kilometers to live, work, sleep and move around. That is roughly the size of a large country. "Total built-up land (villages, towns, cities and infrastructure) would fit nicely into an area the size of Libya"(Land Use, Ritchie, Roser, 2019). To feed humankind you will need a surface that has quite a different size. Agriculture needs a stunning 51 million square kilometers. That is a size 34 times bigger than the surface humankind needs to live on. "The land surface allocated to livestock, either in the form of grazing land or cropland used for animal feed"(Meat and Dairy Production, Ritchie, Rosado, Roser, 2019), accounts to 37 million square kilometers. Humans need the size of Libya to live on. For their protein producing animals, humans need the land surface of two continents: North and South America combined. That is mental.

People want protein.

Global meat demand and production increased more than 4-fold since 1961. In 1961 the major part, 45% of global meat production came from North America. Second place was Europe with 25%. In 1961 Asia produced only 12% of global meat. In 2013 this situation was reversed. "Production increases in Asia have been staggering: meat production has increased 15-fold over this period"(Meat and Dairy Production, Ritchie, Rosado, Roser, 2019). North America has fallen to 15%, Europe to 19% of global meat production. "In other regions meat production increased substantial, growing more than 5-fold"(Meat and Dairy Production, Ritchie, Rosado, Roser, 2019). Including substantial increases of producing animals. Pig meat has always been, and is still very popular. Of global meat production the share of pig meat is around 35 to 40%, and remained the same over 60 years. The share of other meat types, the share of different producing animals, also changed significantly. In 1961 the major part of produced meat came from cattle and buffalo, 44% of global meat. Poultry; any animal that has wings; was a much smaller source at 12%. Again, in 2013 this situation was reversed. The share of meat from cattle and buffalo decreased to 22%. In 60 years the share of poultry meat tripled to 35% of global meat production. Looking at all these changes, numbers and percentages,





please remember that the total global meat production increased more than 4-fold since 1961. And that brings us to the big numbers. “In 2018 humankind consumed an estimated 69 billion chickens; 1.5 billion pigs; 656 million turkeys; 574 million sheep; 479 million goats and 362 million cattle”(Global Meat and Dairy Production, Ritchie, Rosado, Roser, 2019). These numbers do not include producing animals for milk and dairy. These numbers are only the “top 6” of meat producing animals; in reality there are a lot more producing animals than this “short list” of the biggest numbers. Global human population amounts to 8 billion today. It is safe to say humans use more than a 10-fold of their own population number in protein producing animals. That is over 80 billion producing animals for wanting protein; every year. And that is Mental with a capital M.



### PART 3

**TOO MANY,  
TOO MUCH.**



A few weeks ago a major international opinionating magazine called our current era: the age of uncertainty. In my opinion a proper description relating to the future of a child born today. When I look at the current situation humankind finds itself in today, this “pops up” in my mind: too many, too much. Common sense talking. I like it, because it is a simple and very clear thought to relate to. Too many, too much is the reason why all I have written is called: World Population Limitation Movement. Not World Population Stabilization Movement. Too many, too much is a good description of our current situation because it also provides an answer. An answer to the long term uncertainty that children born today will face. Again, a simple and very clear thought to relate to: not too many, not too much.

Too many, too much.

At this moment I can imagine that you, dear reader, are a bit confused. I would like to “clear up things” for you. The intention of Part 2 is not to tell you to change your eating habits. Not at all. For me the impressive number of protein producing animals is only partly the result of human lifestyle, and what people eat in daily life. I understand that there will be disagreement on my view. Several well known environmental groups certainly disagree with this statement. For me it is simply not the issue here. I am looking at this from a different perspective. Part 2 is a research into the consequences of world population growth, today and in the near future. For us humans and the planet we live on. This is not about “too much”. This is about “too many”. In my opinion the main reason for this awesome number of protein producing animals is the size of the world population. The number of protein producing animals is the consequence of having 8 billion humans on this planet. Because we are with that many we use too much, too many people using too much. Not the other way around.

For several weeks now I have been writing about Climate Change and Corona. Climate Change as a result of a global human population of 8 billion, with a mind set on growth only, behaving as 8 billion consumers. Corona as a result of 8 billion people living, in close proximity, with 80 billion animals for their demand of protein. I filled a lot of pages. Today I threw them in the bin. Of course Climate Change and Corona will be two major issues that will determine the quality of the near future for a child born today. But what will ultimately determine the quality of the long term future for many generations to come, and the future of humankind as a species on this planet: that is Sustainability.

What is sustainable? It’s very complicated indeed, and I will try to make it simple. In daily life you use things. The things you use, can, and will be, renewed by the planet Earth. If the amount of things you use is the same amount of things the planet can regenerate: that is sustainable.



Important note: this must be including the rubbish you leave behind, “the mess you make” must also be renewed. Every scientist in the world will say this is too simple, and I agree. In front of me, at this moment, are 4 Wikipedia pages explaining the basics of sustainable. Of course I can copy them, but the result of that is: you will stop reading. For me this description, is the basic principle of sustainable.

Earth Overshoot Day.

When you use more than the planet can renew, you are in “overshoot”(Our Ecological Footprint: Reducing Human Impact on the Earth, Wackernagel, Rees, 1996). The Ecological Footprint Network has developed a method to measure human demand on earth’s biocapacity. Biocapacity is the earth’s ability to renew/regenerate things you used. To answer the following questions Ecological Footprint Analysis developed an ecological accounting system that is widely used around the world. Is what you use sustainable? Or what a population uses? Or a country, a continent, or what the world population uses on this planet? Is that sustainable? “According to Global Footprint Network’s calculations, the planet Earth has been in overshoot since the 1970’s”(Ecological Footprint Accounting for Countries, Lin, Hanson, Marthy, Galli, Evans, Neill, Marein, Martindill, Medouer,Huang, Wackernagel, 2018). Since the 1970’s human behavior is not sustainable. In 1975 the world population number amounted to 4.07 billion. In 2006, in partnership with Global Footprint Network, the first Earth Overshoot Day campaign was launched. The principle is quite simple and brilliant at the same time. “Earth Overshoot Day marks the date when humanity’s demand has exhausted nature’s budget for the year”(Earth Overshoot Day website, Global Footprint Network, 2022). In 2022, Earth Overshoot Day fell on July 28. On July 28 2022 humankind has used everything the planet can deliver/renew in this year. On December 31 2022 we used 175% of what the planet is able to deliver in a sustainable way. On November 15 2022 the world population number reached the new record of 8 billion. In 2022 humans used 1.75 planet Earths. Not sustainable.

Too many, too much

Not sustainable in two ways. The first one is obvious and mentioned before: too many, too much. The second way is more complicated. Earth is an ecosystem, an ecosystem that can regenerate humanity’s demand using the planet’s biocapacity. The ecosystem is driven by worldwide biodiversity. Biodiversity is seated in the natural habitat of our planet, it’s in our planet’s nature. “Agriculture has a major impact on the earth’s natural environment”(Land Use, Ritchie, Roser, 2019). Where agriculture is developed the natural habitat disappears. “This loss of habitat has been the main driver for reducing the world’s biodiversity” (Environmental



Impacts of Food Production, Ritchie, Roser, 2019). And subsequently reducing the planet's biocapacity, it's ability to regenerate the things we use. According to the International Union for Conservation of Nature and Natural Resources Red List, 42.000 species are threatened with extinction. "Agriculture is listed as a threat for 24.000 of them"(Land Use, Ritchie, Roser, 2019).

"Land clearing" is the commonly used phrase for creating suitable land for agriculture. The two words say it all. Everything is removed: bushes, boulders, trees; including everything that lives in or on them. "The land is subsequently "broken" to create a workable "bed" into which the crop can be seeded"(Land Use, Ritchie, Roser, 2019). In this process anything that lives in this "bed" is destroyed; animals living under the surface, insects, seeds and roots of not desired plant life. With the intention to have the highest possible production of the crop intended. With the result that nothing else will live and grow there. Only the seeded crop will flourish. The process is the same even if the intended crop is grass for feeding livestock on a pasture.

Too many, too much

The behavior of humankind is like a double-bladed knife. It cuts on our planet's resources with both sides. One side cuts on resources by the ever growing demand, combined with the near future growth of global human population. The other side cuts on the planet's ability to regenerate those resources used. Human behavior results in a decline of natural habitat, biodiversity and subsequently earth's biocapacity. And that will result in a decline in the planet's ability to regenerate humankind's demands. The double-bladed knife represents a very dangerous combination for our future. For the quality of future children born today are going to have. It is also a dangerous combination for the long term future of humankind as a species on this planet. Too many people using too much

March 2023, these are the last two pages. A small research in world population growth has reached it's final part. If you, dear reader, are still reading something will change. Because now you understand: what you do today can and will matter. After 9 months of pregnancy the World Population Limitation Movement is born. So, totally unexpected, physically impossible, at an age of 66, I delivered my baby. It is up to you "to nurture it", so it will be able "to grow up". You can do this by giving this small research to your husband, wife, partner, boy or girlfriend to read. Talk about it with your loved ones. Share it as much as you can.



I would like to tell you how this research started. This was started by a disturbing news item in 2021. Several hospitals in The Netherlands noticed something peculiar. Every month 5 to 10 young women came in and asked to be sterilized “voluntary”. Without having any disease or physical discomfort. So the doctors asked: Why? The young women’s answer was quite stunning, their message loud and clear: I see no future for my children. That answer kept “going round and round” in my mind, it kept “haunting me”. That’s how it started.

Concluding this research I would like to address one remaining issue. For decades it is a well known scientific fact: the world population will stop growing. Everybody agrees. In what year this will happen and what the “all time record” will be is unknown. Everybody disagrees. Two things are fairly certain: a child born today will live to the end of this century and the world population will grow until the end of this century. But something is going to change. Something will happen for the first time in human history. The way humankind reacts to this new development has consequences. Although the total global population will grow until the end of this century: population numbers on several continents, and subsequently in many countries, are estimated to stop growing and will even start to decline. When a population stops growing in the near future you “can see that coming” today. A population decline in the near future starts with a decline in birth number in the present time. A decline in the number of babies born in one year. This is already happening in several countries today. When this occurs “all alarm bells start ringing”. Countries faced with a decline in birth number all do the same thing. Governments in charge raise their budgets and change their regulations in favor of larger families. In this century population numbers in Europe are estimated to decline first, followed by North and South America. So it’s safe to say that in the very near future a large amount of countries will face a decline in birth number. There are no scientific data available to suggest their response will be different. There is no reason to doubt they will do the same thing. The world population will stop growing, this new development will not change the fact. In the future we will reach the “turning point”, where growth stops. But the manner in which national governments react to national “alarm bells” will have an effect on our future.

With an increasing amount of larger families the world population will grow more than estimated. Therefore it will take a longer amount of time to reach the moment where growth will stop, the “turning point” will be postponed. As a result the “all time record” number of the world population will be higher than estimated. This is why I would like to say again: politics will not provide the answer. This is why the World Population Limitation Movement is not addressed to politicians or governments. This is why it is addressed to you. To ordinary people all over the planet wanting and having children.