

## OVERSHOOT

By Jason G Brent

Humanity is in overshoot and has been in overshoot for a substantial period of time. Any species that remains in overshoot must suffer an uncontrolled massive, violent, and horrible decline in population until the population reaches a level that can be supported by the resources that can be provided by the niche that it occupies. The niche occupied by humanity is the entire planet. Notwithstanding the intelligence of humanity, humanity will suffer that decline if it continues to remain in overshoot.

**NOTHING IS MORE IMPORTANT THAN GETTING HUMANITY OUT OF OVERSHOOT AS QUICKLY AS POSSIBLE.** The longer humanity remains in overshoot, the greater chance that civilization will collapse with the deaths of billions and with the possibility/probability that humanity will go extinct. The longer humanity remains in overshoot, the greater chance that wars (most likely with weapons of mass destruction) over the lack of resources will occur. The **larger** the population at the time of collapse, the more horrible and devastating the collapse! The larger the population, the sooner the collapse of civilization will commence.

Almost every religious and political leader of humanity is not merely permitting humanity to go deeper into overshoot every day, he/she is actively causing humanity to go into deeper into overshoot every second of every day. Going deeper into overshoot is caused by the ever increasing human population and the ever growing economy of the planet. A growing economy must use more of the limited and finite resources the earth provides humanity. Since the earth is finite in size, the resources it provides humanity must be finite and limited. The more resources humanity uses today, the less resources will be available for use by humanity in the future. Technology cannot convert the finite resources the earth provides humanity into infinite resources. Technology can only work on resources and when resources are no longer available technology is useless. In simple terms, you cannot make a steel knife unless you have steel. Of course you can substitute Resource "B" when Resource "A" is no longer available. However, Resource "B" will also become unavailable at some time in the future; there may not be a substitute for Resource "A", in many cases the item you produce with Resource "B" may not work as well as the item you produce with Resource "A" and in many cases Resource "B" may not be economic.

A growing economy uses more resources than the earth provides humanity than a stable or declining economy. Economic growth drives humanity deeper into overshoot and that fact cannot be denied. A growing population drives humanity deeper into overshoot and that fact cannot be denied. The leaders of humanity must stop economic growth and must do all in their power to stop population growth. The leaders of humanity have failed to undertake a program to educate all of humanity that having more than one child is an act of mass murder. And it is an act of mass murder because to get out of overshoot population growth not only must cease, it must be reduced. Similarly stopping economic growth must not only cease, it must be reduced.

Our planet provides humanity with two broad categories of resources, renewable resources and non-renewable resources. Non-renewable resources include fossil fuels and all minerals. Renewable resources include things produced by nature-- trees that grow, fish that reproduce. However, due to the

fact that humanity is using most, if not all, renewable resources faster than nature can replace them, they also must be considered non-renewable.

Resource usage is determined by two numbers--- the population and the average worldwide per capita usage of resources. According to the Global Footprint Network (GFN), a highly regarded think tank, humanity is in overshoot using the resources of 1.7 planets. To the best of my knowledge, no one and no organization has disagreed with the determination made by the GFN relating to overshoot. At the time that the GFN made its determination that humanity was in overshoot, using the resources of 1.7 planets, the population was about 7.6 billion. Dividing 7.6 billion by 1.7=4.47 and that number represents the highest population level humanity can reach without going into overshoot. In plain and simple words, humanity would be in overshoot if its population was higher than 4.47 billion. To get out of overshoot humanity would have to reduce its population by 3.13 billion (7.60 minus 4.47= 3.13).

The latest numbers issued by the UN in 2019 predict/estimate/project (medium variant) that the human population will reach 10.9 billion by the year 2100. While the UN's demographers are not gods and cannot guarantee that their prediction will be achieved in 2100, they are among the best demographers on the planet and I will use their prediction until it is proved to be incorrect. That means that there will be an increase in population of 3.3 billion (10.9 billion minus 7.6 billion = 3.3 billion).

Between now (November 2021) and the year 2100 humanity will use trillions of tons of nonrenewable resources. In addition between now and the year 2100 there will be a very substantial increase in the worldwide average per capita usage of resources, due to the demands of the billions residing in the underdeveloped and undeveloped nations. Also those living in the industrialized nations of the world will demand and obtain an increase in the resources they use.

No one can accurately predict the increase of the worldwide average per capita usage of resources between now and 2100. However, due to the large portion of humanity living in the undeveloped and underdeveloped nations, a small increase in their average per capita usage of resources will have a dramatic effect on the world average. The increase in per capita usage of resources logically requires a reduction in the population level necessary to get out of overshoot. My estimate is that the 4.47 billion mentioned above should be reduced to a very conservative 3.0 billion--- a reduction of 1.47 billion. I cannot prove that the reduction of 1.47 billion is correct. However, no one can prove that it is incorrect.

Based on the facts above, in order to get out of overshoot humanity will be required to reduce its population level by 7.9 billion commencing in 2101-- 10.9 billion (the estimated population 2100) minus 3.0 billion (population level necessary to get humanity out of overshoot) =7.9 billion. However, see below for a discussion of humanity returning to the Stone Age causing over a 99% reduction in population to 50 million or below.

There are two, and only two, ways that the growth of the human population can be controlled-- voluntary population control or coercive population control. For the purpose of this essay, I will define voluntary population control as all actions that could be taken by humanity to control population short of coercion. A few examples-- providing all humanity with the most modern means of birth control at little or no cost, providing all humanity with the right to obtain abortion at little or no cost, educating

women, and attempting to change the culture to give women greater social political and economic rights.

To the best of my knowledge, no one on the face of the earth has determined, or attempted to determine, the chance that voluntary population control will fail or not fail to reduce the population to whatever level is necessary to prevent the collapse of civilization. Anyone who believes that voluntary population control has zero chance of failure is a fool. To gamble the collapse of civilization on voluntary population control without knowing, or attempting to know its chance of failure is totally and completely irrational.

No one who is prepared to gamble the collapse of civilization on voluntary population control, to the best of my knowledge, has prepared a detailed schedule showing at 10 year intervals for the next 150 years essential facts-- the population, the TFR, and the average worldwide per capita usage of resources. This schedule is absolutely necessary because humanity must be able to compare the predicted numbers with the actual numbers in order to determine if humanity should continue to gamble its survival on voluntary population control. Hypothetically-- the schedule predicts a population of X in the year 2060 and the actual population in the year 2060 is 1.5 times X, humanity must then decide to continue to gamble its survival on voluntary population or to immediately impose coercive population control on all of humanity. In plain and simple words, if humanity is prepared to gamble its survival on voluntary population control, humanity must set up "trip wires" so that it can instantly be determined if it is the best interest of humanity to continue to gamble its survival on voluntary population control or to immediately switch to coercive population control.

In my hypothetical above, if the population in 2060 is 1.5 times X, humanity will not have time to debate what action should be taken. Humanity must decide today what action should be taken if the actual numbers, when compared to the schedule prepared by those in favor voluntary population control, prove that voluntary population control is failing, Humanity does not have 10 or 20 years to debate what action should be taken if, as in my hypothetical, the actual population is 1.5 times larger than the predicted population in the schedules prepared by those in favor of gambling the survival of humanity on voluntary population control. Anyone in favor of voluntary population control who prepares a schedule similar to the one I described above and does not include "trip wires" (actions that will be immediately imposed on humanity) if the actual numbers are substantially higher than the predicted numbers is a fool.

Assuming that my calculation above is accurate, or even reasonably accurate, that the human population must be reduced by 7.9 billion commencing after the year 2100, the questions become---- how long will it take humanity to reduce the population by 7.9 billion using voluntary population control and will that reduction occur prior to the collapse of civilization? I am not a demographer and do not have the math skills to do the necessary math. Anyone who has the skills, I ask that you contact me and correct me. Now to my estimate-- I am estimating that it would take voluntary population control at least 250 years to reduce the human population by 7.9 billion starting in 2101. One factor I have taken into consideration in making my estimate is that according to the UN's latest numbers the average lifespan in the year 2100 would be over 81 years. Even if my estimate of 250 years is wrong, there

cannot be any dispute that it will take a substantial amount of time to reduce the human population by 7.9 billion using only voluntary population control.

Now let us examine the forces, concepts and ideas that work against voluntary population control being able to reduce the human population in time to prevent the collapse of civilization. Every person who is prepared to gamble the collapse of civilization on voluntary population control must do that examination to determine if his/her position is correct. First, and most importantly, since humanity evolved from the ape a growing human population was beneficial to all of humanity. It is and it will be very difficult to make a 180° change from beneficial to harmful. Most religions want a growing population and some religions takes the position that the most modern means of birth control should not be used, that abortion is a crime and that they will never advise their followers that having more than one child is a very antisocial and harmful act. No amount of publicity, propaganda, education or any other act will change the positions of almost all religions about birth control and abortion. There cannot be any dispute that some, or even many, of the religious individuals do not follow the demands of their religion relating to birth control and abortion. However, a very strong case can be made that a sufficient number of them will follow the demands of their religion such that voluntary population control will never succeed in reducing the human population to the necessary level and in time to prevent the collapse of civilization.

Most people believe that they have the "right" to produce the number of children they desire and refuse to acknowledge that any "right" must be limited when the exercise of that "right" harms other people or harms all of humanity. You have the right to swing your arm, but that right does not let you swing your arm until smashes into my face. Many cultures determine a man's position in society based upon how many children, or how many sons, he produces. Notwithstanding the fact that humanity has weapons of mass destruction, many leaders of many nations believe that it is in the best interest of their country to produce a large population so that they can have a large military force. Many economists take the position that a growing population causes a growing economy and the growing economy is beneficial to the country. I could list additional factors that work against voluntary population control, but if the above facts are not sufficient to convince you that it is highly likely that voluntary control will fail anything I could add would not change your minds

Those in favor of voluntary control have no understanding of compound growth. Justice Scalia of the US Supreme Court had nine children. Assume each of those nine had nine and that continues for just 12 generations, each generation lasting 40 years. In 480 years, an infinitely short period of time, there would be billions (a number far larger than the 7.8 billion humans alive today) of Scalias running around. Most religions demand population growth and if humanity wants to survive on this planet, most religions must modify their positions on population growth, on abortion, on birth control and similar concepts. If they refuse to modify their positions they must be eliminated from the face of the earth in order for humanity to survive.

Any analysis of the future of humanity must consider the TIME to the commencement of the collapse. "Blip", a book recently written by Chris Clugston, makes an extremely strong case that the collapse of civilization will commence about 2050 due to the inability of the earth to provide the resources

necessary for civilization to continue. I urge you to read that book and form your own conclusion. In addition to Clugston, Professor Jared Diamond, of UCLA, a Pulitzer Prize winner and an expert on the collapse of civilizations (he has written three bestselling books on the subject of the collapse of civilizations) has stated "I would estimate the chances are about 49% that the world as we know it will collapse by about 2050". Professor Diamond explained his belief by the following statement—"At the rate we're going now, resources that are essential for complex societies are being managed unsustainably. Fisheries around the world, most fisheries are being managed unsustainably, and they're getting depleted. Farms around the world, most farms are being managed unsustainably. Soil, topsoil around the world. Fresh water around the world is being managed unsustainably. With all these things, at the rate we're going now, we can carry on with our present unsustainable use for a few decades, and by around 2050 we won't be able to continue any longer. Which means that by 2050 either we've figured out a sustainable course, or it'll be too late."

IN 1967 the US population reached 200 million. Today it about 333 million or 1.66 times as large. In 1950 the world population reached about 2.5 billion. Today it is about 7.8 billion, or about 3.12 times as large. Lastly in 2100 the population is predicted to reach 10.9 billion. Compared to the 2.5 billion in 1950, it is 4.36 times as large. No one on the face of the earth can show that a single benefit that accrues to humanity due to the predicted increase in population of about 3.1 billion between now and the year 2100. In fact, the predicted increase of 3.1 billion is harmful to humanity in many different ways. The predicted increase in population will cause the collapse of civilization to occur in a very short period of time.

To look at the situation in another way and in very direct terms, even if there is only a 20 or 25% chance that Clugston and Diamond are correct, to gamble the collapse of civilization on voluntary population control is an irrational act. We are not playing a game here and the downside is more than terrible--- the collapse of civilization with the likelihood of the deaths of billions and even the possibility/probability of the extinction of humanity. To the best of my knowledge, no one who is gambling the collapse of civilization on voluntary population control has written a paper that attempts to show that voluntary population control will reduce the population and the usage of resources to whatever level is necessary to get humanity out of overshoot prior to the commencement of the collapse of civilization. To gamble the collapse of civilization on voluntary population control without having prepared a paper that proves, beyond a reasonable doubt, voluntary population control will get humanity out of overshoot before the commencement of the collapse of civilization is an act so irrational that is beyond the imagination of any intelligent person. No one has written a paper proving that voluntary population control would get humanity out of overshoot before the commencement of the collapse of civilization because no such paper can be written without the inclusion of such stupidities and the lies that every intelligent person would laugh at the paper.

Dinosaurs ruled the world for about 160 million years. I can guarantee with absolute certainty, not merely 99.9% certainty that in 16,000 years humanity will have reverted to the Stone Age. And 16,000 years is a very short period of time compared to the 160 million years that dinosaurs ruled the world--- 1/10,000. Dinosaurs did not produce 1 ounce of garbage over the 160 million years that they ruled the earth. Everything they used was returned to the earth to again be used by them. In contrast humanity produces millions of tons of garbage every year. In this essay "garbage" is defined as resources used by humanity but returned to the earth in such a manner that it cannot be used again by humanity. Since the resources the earth provides humanity are finite, those resources that are not returned to the earth to be used again will be longer available to humanity at some point in time in the future. Anyone who believes that our industrialized civilization can continue forever into the future is irrational. At some point of time in the future most, if not all, of the resources that permit our industrialized civilization to continue will no longer be available to humanity and humanity will return to the Stone Age. While no one knows exactly the number of humans that can exist on this planet at a Stone Age level, a strong argument can be made that it can be no larger than 50 million. In plain and simple terms, at some time in the future, if humanity does not go extinct, the population has to be reduced by at least 99%. I challenge anyone to write a paper proving that humanity will not return to the Stone Age sometime in the future.

To be more realistic, a very strong argument can be made that humanity will be forced to return to the Stone Age in a thousand years or less, due to the inability of the earth to provide the resources necessary to maintain our industrialized civilization or even a much more simple civilization. Clugston and Diamond predicted the collapse of civilization by 2050. Even if they are wrong by 500 years (and they will not be wrong by 500 years) humanity is presently in its death throes.

Every problem faced by humanity today is caused by, or will have some relationship to, the exploding human population and the ever increasing usage of natural resources. Every problem faced today by humanity will become more difficult to solve in the future due to predicted increase in population of over 3.1 billion. That statement is only partially correct—most, if not all, of the problems humanity faces today will become impossible to solve due to the increase in population and due to the ever increasing amount of resource usage. A logical interpretation of the predicted increase in population of over 3 billion between now and 2100 made by the UN is that voluntary population control will be a complete and total failure. During that period the population will increase, not decrease or even

become stable. Due to the increase in population between now and 2100, every action taken by humanity to get out of overshoot will fail. Humanity cannot wait until 2100 to take action that could get it out of overshoot. The best of my knowledge, no one in favor of voluntary population control has produced a paper predicting a date, or even a range of dates, when humanity will get out of overshoot. And that date is the most important date in the history of humanity, due to the fact every second humanity remains in overshoot it gets humanity closer to the collapse of civilization.

Every action taken, or could be taken, by humanity to prevent global warming from causing major catastrophes will fail unless there is an immediate and substantial decline in the human population. While many proposals have been put forth as how to prevent the catastrophes caused by global warming, to the best of my knowledge, none of them have presented a realistic proposal that covers the entire planet. Every action taken, or could be taken, to solve the fossil fuel problem (and the fossil fuel problem is very simple-- fossil fuels are finite and limited and sometime in the future will no longer be available to humanity-- and it is almost certain that alternatives to fossil fuel in the energy area and in the area of other products that use fossil fuels in their creation will not be available to humanity in a sufficient amount and at a cost that humanity can afford prior to the exhaustion of fossil fuels) will fail unless the human population is immediately and substantially reduced. No one, the best of my knowledge, has produced a proposal that will solve the fossil fuel problem on a global scale.

Who has the burden of proof relating to the problem of the possibility/probability/certainty of the coming collapse of civilization? Since the coming collapse of civilization will almost certainly cause the deaths of billions and since I have made out a prima facie case for my position, the burden of proof belongs to anyone who disagrees with what I have written in this essay. Prove I am wrong. It is not my burden of proof to prove I am correct.

#### Final comments

1. Voluntary population control has zero chance of preventing the collapse of civilization with the deaths of billions and with a high probability of the extinction of the human species. I chose the words "high probability" because I believe there will be wars over the lack of resources with weapons of mass destruction.

2. The only possible way to prevent the collapse of civilization in the relatively immediate future is to impose coercive population control on all of humanity. And by coercive population control I mean a bullet back to the head of anyone producing more than one child. Of course, before coercive population control can be imposed on all of humanity, all of humanity will have to be educated about coercive population control and be given all the means necessary to prevent the birth of a second child. All of humanity would have to be educated that the production of a second child will lead to the collapse of civilization and the deaths of billions. All of humanity would have to understand that the individual cannot permit his/her ego desiring more than one child to cause the deaths of billions. All of humanity would have to understand that there isn't any alternative to coercive population control that would permit civilization to continue for even a relatively short period of time into the future. All of humanity

would have to be educated to the fact that the earth is finite and that the resources the earth can provide humanity are finite and limited. Therefore, economic growth cannot continue forever, or even for a substantial period of time, into the future. All of humanity would have to understand that compound growth is the most powerful force in the universe. If the economy of the planet were to grow at the annual rate of 2% it would double every 35 years and in 350 years there would be 10 doublings resulting in a growth factor of over 1,000. No matter what action is taken by humanity and no matter what technology is developed by humanity, the finite earth could never support an economy over 1,000 times as large as the current economy. There cannot be a dispute regarding the fact that both the economy of the planet and the human population grow in a compound manner. Every religion that is opposed to the use of the most modern means of birth control and/or is against abortion and/or advocates/demands that the followers of that religion produce more than one child has to be modified or eliminated from the face of the earth.

3. Since no leader on the face of the earth will take all, or most of, the steps necessary to prevent the collapse as set forth in number 2 above, civilization will collapse in the very near future with the deaths of billions.

4. Humanity has only one choice and it must make that choice immediately-- continue population and/or economic growth resulting in the collapse of civilization, the deaths of billions and possibly extinction of humanity or cease both population and economic growth and completely modify every aspect of civilization to permit humanity to remain on this earth for a much longer period of time.

NOT A PLESANT OUTCOME.

On Tuesday, July 12, 2022 the UN updated <sup>ITS</sup> population numbers. The latest numbers are that the human population will reach 8.0 billion in November, 2022 and will reach 10.4 billion in 2080 and maintain that level until 2100. These new numbers do not change the conclusions contained in this essay. In fact, any level of population increase between now and 2100 will not change the conclusions set forth in this essay