*Development, Environment and Foresight, 2015, Vol. 1, No. 2, 123—132, ISSN: 2336-6621*

DEF journal

# To Accept the Future

## Oil, climate, denial and the future capacity of development assistance—Part II

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**Key words:** oil, climate, future, development assistance

Since the first part of this essay was published in the DEF, the mighty, formally educated, yet future-naive Europe has received her wake-up call from the future. By the end of 2015, 800,000 asylum seekers are expected to have arrived in Germany (Guardian 2015 A). This is four times more than one year before. By August 2015, more than 125,000 migrants reached the Greek islands – a 750% increase over the whole of 2014 (Business 2015). Globally in three years, from 2011 to 2014, the number of people displaced by war grew from 42.5 million to 59.5 million (UNHCR 2015).

Is this the future I am talking about? Not really. Not yet...

### Factors existing at the rise of civilisations also tend to be the reasons for their fall.

No civilization can flourish without the production of a food surplus as only a food surplus allows some people to leave the fields and start to specialize in a range of disciplines, which lead to great architecture, arts, science, technology, development of cities and other manifestations of civilization. Our predecessors once understood that agriculture is the fundament on which each civilization stands: after all, the word “culture” originates from the Latin “cultura” – cultivation, agriculture. Surrounded by gadgets and removed from farms and farm animals, we tend to miss this basic reality.

Factors in place at the cradle of our global,, industrial – of if you wish post-industrial – civilization, were oil and other fossil fuels. One billion people lived on the Earth at the dawn of the industrial era around the year 1800. It took 200,000 years for our species to reach this figure. For 190,000 years of that period the human population was below or around 5 million hunters and gatherers. Then it took around 10,000 years for the agrarian revolution to push the human population from 5 million to 1 billion, most of them farmers. What followed was a lightning strike: within the next 200 years coal, oil and natural gas provided enough energy for the increasing homo sapiens population to reach more than 7 billion people. Billions of oil “slaves”, more precisely fossil fuel “slaves”, hidden in billions of barrels of oil and tons of coal not only enabled explosive population growth, but also an unprecedented increase in the consumption of materials and energy. This also enabled billions of humans to live an urban life in cities and megacities, to fly over the oceans and make daily movements over long distances, all of which would have been beyond human imagination just a few generations earlier.

I know this is repetitive, yet it is not quite without meaning: all those billions of barrels of oil and billions of tons of coal, created over millions of years but burned over two

centuries, do not come without a price to be paid. Physical data suggest that the burning of fossil fuels which enabled our civilization to progress is also most likely to become its undertaker. The mechanism of how it is going to happen is being denied with the same, if not bigger stridency, as the peak oil, global warming and climate change.

## Climate change

Let´s remind climate deniers, if they happen to be among the readers of this text, that according to the study „Expert Credibility in Climate Change" published in the Proceedings of the National Academy of Sciences (volume 107, 2010), around 90% of climate scientists have no doubt about the anthropogenic warming of the Earth's climate, while the majority of the remaining 10% have doubts about the extent of human involvement, not about the reality of fast warming. The doubts about climate change are being spread principally by groups such as fossil fuels and fossil energy lobbyists who try, often very successfully, to prevent taxation on emissions, and by non-climate scientists who let themselves get drawn into the debate without really studying the issues.

For those with an understanding of basic physics the reality is rather clear: 120 years of global collection of data from the surface of all the continents and shorter data sets from the surface and the depths of the oceans prove beyond doubt that the average global temperature is rising fast. Capitalists, Communists, Europeans, Chinese, Indians, Americans, Christians, Hindus, Buddhists, Jews and more have all came to the same conclusion: the average global temperature over the past 100 years has increased by 0.8° degrees Celsius. How do we know this is significant?

## The language of ice cores

All those who paid attention at elementary school will remember that at various times in the past there were ice ages; periods when much of Europe and North America were covered by a thick sheet of ice, and further south the landscape was covered by freezing tundra which provided food for the herds of mammoths, reindeer, woolly rhinoceros and other species adapted to the extreme cold. Some may recall being taught that the last ice age ended approximately 20,000 years ago. What we mostly did not learn – and it goes without saying – is that all civilizations, from Sumer and Egyptian through classical Greek, Chinese, Roman, Aztec and Inca up to our recent global high-tech civilization, emerged during an interglacial period named the Holocene, which has lasted roughly 12,500 years. It is this era of unusually stable climate that made possible the rise of agriculture and consequently the steady growth of food supply, populations, cities, human specialization and other attributes of civilization.

How do we know about past climates? Paleoclimatology possesses a whole spectrum of methods which enable the study of how the climate has changed during the history of the Earth, how temperatures have fluctuated and the chemical composition of the atmosphere. One of the most elegant of these methods is the analysis of ice cores

extracted from the ice sheets of Greenland, Antarctica and mountain glaciers still preserved in the high altitudes of the Alps, the Andes, the Himalayas and other mountains. Glaciologists can drill into the Greenland and Antarctic ice sheets, to depths where ice was formed one million years ago. Frozen in these cores is the long history of the Earth's climate and atmosphere.

Thus we know that during the previous interglacial periods, average global temperatures were similar to those of the Holocene and during the previous ice ages, global temperatures were, on average, 6 degrees colder. The interglacial era, when most of Europe is covered by fertile fields and lush forests, is separated from the ice age, when large parts of Europe were covered by a thick ice sheet, and the tundra by a meagre 6° Celsius in average global temperatures. Indeed in latitudes of Central Europe the difference is approximately twice as pronounced, that is around 10°C to 12°C. For many locations it means an annual average temperature around or below freezing point.

A seemingly modest 0.8°C increase in average global temperature over past 100 years needs to be compared with those 6 degrees which separate us from ice age conditions. 0.5°C of the 0.8°C are from the last 30 years. Paleoclimatology offers yet more crucial information: the transition from the last ice age to the Holocene; a 6°C rise in average global temperatures, took almost 10,000 years, during which the gigantic ice sheets covering northern Europe and all of Canada melted and the sea level increased by 120 metres.

Simple calculations tell us that the current rate of temperature increase is - so far - approximately 30 times higher than during the ice age – Holocene transition. "So far" is important: there are many physical reasons why further acceleration can be expected. What are they? For instance, the area covered by snow and ice has been reduced and along with the shorter duration of winters this shows that the period of coverage of the continents is shortened. The Earth's albedo is changing: less solar energy is reflected back into space and more is absorbed by the ice and snow free oceans and land. An unknown but apparently growing amount of methane is being released from permafrost melting in Siberia, Canada, Alaska and the Tibetan plateau. Huge quantities of methane are also being released from clathrate deposits in warming shallow shelf seas such as the East Siberia Sea. Methane is powerful greenhouse gas, 20 times stronger than carbon dioxide. As the climate warms up, drought and heatwaves make forests in the U.S., Canada, Siberia and Amazonia increasingly vulnerable to wildfires. During the 2005 and 2010 droughts, Amazonia was a net emitter of CO2 instead of serving as the Earth´s major carbon sink (Lewis 2010).

You can certainly sense what is the source of the problem. Factors existing at the rise of civilisations also tend to be the reasons for their fall.

## Basic issues of life and death

The facts mentioned above should be well known to people from their time at school. Anyhow, let me sum up a few facts: Chemical analysis of ice cores as mentioned above, informs us that atmospheric CO2 concentrations during the ice ages reached a minimum of 180 parts per million (ppm) and during the interglacial era they reached a maximum of 280 ppm. Methane concentrations moved from 300 parts per billion (ppb) to 700 ppb and back. Current atmospheric CO2 concentration is 400 ppm. Methane concentration is around 1700 ppb. Volumes of greenhouse gasses added to the atmosphere over the past 200 years have already significantly exceeded their "physiological" fluctuations between the ice and interglacial ages.

Methane retention time in the atmosphere is measured in decades. Carbon dioxide´s time is measured in centuries. They set a timeframe during which temperatures will continue to rise. How high they will rise is an open question: more optimistic scientists and models suggest plus 2°C to plus 4°C within the period 2050 to 2100. Key politicians pretend that exactly + 2°C is a legitimate goal for our pathetic efforts to limit global warming. No one – or very few at best – asks whether those +2°C are actually compatible with the survival of our civilization. We should ask this question, because even as we speak the atmosphere is changing.

We know that the last time the Earth´s atmosphere had the same level of CO2 as today – 400 ppm – sea levels were 5 to 40 metres higher and average global temperature were 3 to 4°C higher. (Monroe 2013). As we do not possess the means to extract methane and CO2 from the atmosphere fast enough, and while we add more and more to the atmosphere in our holy quest for GDP growth and more consumption, our planet is firmly on a trajectory towards the melting of Greenland's and the Antarctic's ice sheets, and a sea level appropriate for 400 ppm of CO2 and 1700 ppb of methane. Those 4 to 40 metre rises in sea levels mean that Bangladesh, the Netherlands, Florida, London, New York, Cairo, Lagos, Bombay, Karachi, Jakarta, Hong-Kong, Bangkok and dozens of megacities and thousands of smaller ones will be under water.

However, the sinking of coastal countries and cities is not what needs to concern the current generation the most. The melting of ice sheets has a long latency and it may take several generations until the process the point of no return. By that time our generation will only be a fading memory, but what will remain of the present generation are our failures. However, us and our children will be affected much sooner via the most basic pillars of our civilization: agriculture and food production.

## Achilles heel of food supply

In fact to speak about this issue in the future tense is pointless: climate change is already affecting our food security and social stability. Extreme heat waves in Russia in 2010 destroyed one third of the Russian wheat harvest and set in motion dramatic increases

in global food prices which, in the ensuing 6 months, triggered a wave of Arab revolutions. Their fruits are still being harvested by the world and will be for many years to come. (Mesik 2011) As the Arab world as a whole already imports more than half of the food calories needed to sustain its explosively growing population, it will be the one region that will first feel the heat. It is highly probable that it will be followed into desperation and chaos by other countries of subtropical climate zones, such as the Sahel countries in Africa, some of which are already balancing on the edge of famine. Countries such as Pakistan, possibly armed with nuclear bombs, or overpopulated Bangladesh, or India, or Mexico writhing in the spasms of drug wars, or someone else, may follow the Arab world into chaos and desperation.

If the current world only faced the challenges of extreme debts and the risks of banks and nations becoming bankrupt with the consequent social disruption, it would be bad. However, the risks of a debt-financed life and the collapse of the financial system are only a mild version of peak oil consequences. And those are innocent games compared to possible climate change disruption.

We can all happily relax with a mirage of rose-tinted tomorrows, but our desires will have little effect on the crash of our civilization with the realities of peak oil and climate change. The question is not whether resource scarcity and climate change will hit us, but when and at what speed. Paraphrasing the Czech thinker and activist Ivan Rynda, we may be lucky and get a “gentle dose of crisis” – or we may receive an unkind dose. The other possibility means less time to adapt and an even higher risk of mal-adaptations in the form of searches for scapegoats and promises of miraculous cures, all of which will ultimately lead to cumulating frustrations and a violent climax. What we see in Syria and Iraq today is but a living laboratory of the possibilities which some parts of the rich world may sooner or later be confronted with.

## Future of development assistance

There can hardly be any doubt that with unsustainable public and private debts, exhaustion of oil, water and other mineral resources and a rapidly changing climate, the need for development and humanitarian assistance will be steeply growing at the same time; a time when the capacity and will of the rich countries to provide it will be under growing stress and scrutiny. What will the clash of growing needs and falling resources bring to the scene of development aid thinking and practice?

Let us first look at the recent past. It was in 1970 – just two years before the first edition of the Club of Rome´s report Limits to Growth – when the United Nations adopted the target according to which rich countries should provide 0.7% of their GDP for development assistance. As of 2015 only six small countries – Denmark, Luxemburg, the Netherlands, Norway, Sweden and the United Arab Emirates - have reached that goal. Joining them in 2014 for the first time was the first large global economy – the UK (Guardian 2015). Of the G7 countries, according to the United Nation´s data, Canada provided net foreign

aid equal to 0.24%, of the GNI, France 0.36%, Germany 0.41%, Italy 0.16%, Japan 0.19%, the UK 0.71 and the United States 0.19%. These seven countries represent 46% of global GDP and more than 64% of global wealth. If they do not help, there is no one else out there to do the job.

To remind us of more recent pledges, when the Czech Republic, Poland and Slovakia were accepted to the OECD, they pledged to increase their foreign aid to 0.35% of GNI by 2015. In 2014 the Czech Republic gave 0.11%, while Poland and Slovakia each gave 0.08% of their GNI. Crisis ridden Greece gave 0.11%, and Spain, with all her colonial heritage and sins gave 0.14%.

This is the standard situation with the foreign assistance of rich countries to poor ones during times of economic growth, cheap oil and a steady climate. What are the chances that, in times of sluggish or negative economic growth, high debt, expensive oil and worsening climate, the rich countries will be more generous? Let us face it: none. The Greek story gives us a more realistic clue to what is likely to happen to aid budgets under financial stress: Greek foreign aid in 2002 and 2003 reached 0.21%: by 2013 it had halved to 0.1%. To make the point one more time: Spanish foreign aid in 2008 was 0.45% and in 2009 it reached 0.46% of the GNI: in 2014 it was down to 0.14%, less than one third of the amount just five years earlier.

It is not as if there would not be the need: according to the UN Office for the Coordination of Humanitarian Affairs, more than 100 million people across the world are in need of “urgent life-saving humanitarian assistance”, with nearly 60 million forcibly displaced as of the summer of 2015. (UN 2015) This situation did not emerge overnight. Let´s take Syria as a classic example of the rich world´s failure to respond to a gradually growing crisis.

Facing the migration wave of 2015, the media and politicians repeat as a mantra the statement “Nobody could have expected this”. Nonsense: the whole thing was totally predictable, the only question was when the wave would start and how high it will go. A new drought has gripped Syria since September 2013 and the smallest amount of wheat since the year 2000 was planted. In April 2014 the media reported 4 million Syrians were in need of food assistance and the number was growing fast – but only 22% of the pledges of financial support for the World Food Program were covered. To provide the basic minimum for the then 4 million people, 40 million dollars per week was needed. By December 2014, the WFP was forced to suspend food aid for 1.6 million Syrian refugees in neighbouring countries due to a funding crisis. By then more than 3.2 million Syrians had left the country and 7.6 million more were displaced within Syria (BBC 2014). At the beginning of July 2015 the WFP was forced to half the value of a food coupon – to 13.5 dollars per month. By then the WFP´s Syrian operations were 81% underfunded. “Um Haitham, a Syrian refugee, says she pays approximately $40 per month to buy milk for her baby. A packet of bread costs $1. A kilo of tomatoes is just over $1 and a kilo of rice is about $3. "How are we supposed to feed our children, our babies, on this kind of

money? This is not even enough to survive on," said Um Haitham, with the youngest of her three children glued to her hip", reports Al Jazeera (Al Jazeera 2015).

Is anyone surprised that masses of people from Syria started to move to Europe in 2015? Or by the fact that they were accompanied by masses of people from Iraq, Afghanistan, Nigeria, Pakistan and many other countries, including the European Balkans? So instead of providing hundreds of millions to help millions in refugee camps via support for the WFP and other UN agencies, Europeans, Germans in particular, choose to provide billions for the few hundred thousand migrants who arrived in Europe.

Moreover, what can be observed on the roads of Greece, Macedonia, Serbia, Hungary, Croatia, Austria and Germany itself in 2015 is a classic example of Darwinian "survival of the fittest": those poorest, most vulnerable and most deserving of help and compassion are only a small fraction among migrants. Women, children, the elderly, the handicapped and the poorest do not have the resources or the energy for migration to Europe. Could Germany do it better? Indeed it could – but it did not even try. Germany could have relatively easily organized air and sea bridges which would have safely and cheaply transported those eligible, the most vulnerable Syrians from Lebanon, Turkey and Jordan to Germany. Instead it catalyzed the departure of the most capable, the best educated, young and rich Syrians, a true brain and muscle drain from an impoverished and devastated country. If the war in Syria ends – let us be optimistic for a moment – Syria will need exactly such people. It may be an illusion to hope that many of those who left will ever return.

## More people, more needs and fewer resources: Triage imperative

Poor countries increasingly destabilized by climate change, as well as water, oil and other resource depletion, combined with explosive population growth and consequent political and security deterioration, will need more and more foreign assistance. Much more than was never met by 0.7% GNI.

For political leaders – and voters – of the rich countries, foreign aid is a very marginal issue on their agenda. It was this way in the times of rapid economic growth which led to unheard of prosperity in the West. It will be even more so when the West itself starts to feel the same climate and resource pressures, which for poorer countries will soon become devastating. The brief story concerning the volume of Greek development aid illustrated the point better than any speculation.

In an environment of rapidly growing needs and almost equally quickly falling aid resources, the efficiency of development assistance will be even more important than over the previous decades. What the West has achieved in this field so far is not particularly impressve: whether it is the extent of corruption surrounding development aid – including the use of the huge EU´s cohesion, structural and development funds within new member states – or the share of development aid budgets actually leaving donor

countries, or, as most recently, the plentiful collateral damage surrounding migration to Germany and western Europe from Syria, Iraq and other poor countries. Instead of helping to keep food subsidies provided by the WFP to Syrian refugees in camps at the level of 40 Euros per month, the German budget pays an annual price of 12,000 to 13,000 Euros per one asylum seeker inside the country (Frankfurter 2015) – 25 times more per capita, with many unintended consequences and future issues to deal with both in Germany and in human capital depleted Syria, Iraq and Afghanistan.

Excesses such as the one mentioned above – too much money for two few of the privileged – are not sustainable and will soon become totally unrealistic. In a world of much more limited resources and an age of climate change consequences, aid efficiency will probably gain new meaning. The development assistance field in general, not only emergency aid, may soon need to learn some key lessons from military/ catastrophe medicine, such as a triage approach. Seemingly brutal, but efficient in terms of saved lives, the triage approach divides the victims of a disaster into three groups: those, who can manage without help, those who will most likely die and those who have good chance to survive if they are given available attention and assistance. The first group receives aspirin or nothing. The second receives morphine. The third reaches doctors and surgical rooms.

## Mirage of Sustainable Development Goals

When you look at the United Nation´s new "Sustainable development goals", it is quite clear that the world continues to live – or at least pretends to live – with the idea of continual and never ending growth in consumption and the availability of resources. The list of 17 magnificent goals does not leave anyone familiar with paleoclimatology or the state of oil, water, soils and mineral resources, or the levels of public, private and corporate indebtedness, in any doubt about the science-fiction nature of the SDGs. In fact they are much more fiction than science. The SDG´s 17 goals and 169 targets remind one more of a child´s Christmas wish list, than a reflection of reality and real possibilities. Politicians indeed like them: no profession is better these days at making promises of a glorious future of plenty and justice. The impossible achieved while you wait; miracles in ten minutes.

It is easy to make fun of good people´s good, but naïve intentions. After all it is probably better to make at least some efforts to debate the challenges of the future, than ignore them completely. However, the results of long and very, very costly debates, in terms of numbers of experts paid and frequent flyers miles earned, are surprisingly weak in addressing some of the fundamental issues of the present world. There is no mention of the need to stop human population growth as soon as possible: the closest the SDG´s come to mentioning it is in relation to empowering women and girls. This is not enough in African and Arab countries, where the population has increased by more than 40 or even 50% since the year 2000.

Here are just a few examples: Yemen – hovering on the brink of collapse – 50% increase in population from 2000 to 2014. Sahelian Mali – 53% increase. Neighbouring Niger - 63%. Africa´s population giant Nigeria - 44%. To these explosively growing populations the SDG´s promise "sustained and sustainable growth" and, of course, full employment. We are keeping a straight face while deceiving ourselves, knowing and ignoring the fact that the figures simply do not fit.

What we desperately need, if we are serious about development assistance, is to openly tell the leaders and populations of developing countries that we in the North will not able to assist them at the previous level, we will not be able to absorb the burgeoning populations of Africa, the Middle East, South Asia and Central and South America. We need to tell them honestly that climate, food and resources pressure will be growing and are by now almost completely out of human control. Technologies may be able to help humankind to survive the pressures of tomorrow, but there is no guarantee we will develop all the necessary technologies in time and that will be able to scale them up to service billions of people. The fate of nuclear energy is a warning example: after 60 years of development, the nuclear industry provides less than 4% of the world´s primary energy and only about 11% of the world´s electricity (British Petroleum 2015).

And not least, we need to tell the people and the leaders of the global South, as well as ourselves, that the global North is heading towards a painful and possibly very messy divorce with its own ideas, beliefs and dreams about the future.

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