

Distributed Ledger Technology & Digital Currency: Implications for Africa

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Distinguished guests, Ladies and Gentlemen, members of the NBA 2017 organizing team.

Thank you all for taking the time from all that you had to do, to come and attending this groundbreaking event. It might be just another event for some of you, but for me, it's quite an emotional event, because when I first got involved with Blockchain and Bitcoin the number of people in that ecosystem were less than the number of people attending this event. Bitcoin was the only application of blockchain technology at the time and I don't recall any other African on earth being part of this back in 2010. We were just a bunch of crazy geeks playing with thousands of bitcoin tokens that were worth a few cents each at the time.

Fast forward to 2017 and it all feels like the Internet in 1996 when Yahoo, Google, Amazon are just being born and web browsers like Netscape Navigator and Internet explorer have just started to come to market to bring in the next wave of Internet users.

The difference between then and now is that, this is the first time that a revolutionary technology and invention is no longer limited to Western countries. This Blockchain technology is available to anyone all over the world at the same time including the African continent.

So, what are the implications for Africa? Well that's a question that would take me two weeks to answer in detail, but since my time is limited, I will do my best to

compress my answer into a package that you can all digest when this event comes to an end. I will also focus on the future and the millennial generation and below who are growing up in this Blockchain world.

The first thing to note is that while Africa's Blockchain innovation revolution is still in its infancy, is gaining pace rapidly. The challenges that Africa faces are not necessarily American, Asian or European challenges, so the solutions are likely to come out of Africa and therein lies the opportunity for all of us.

When it comes to technological infrastructure, Africa does not have legacy systems of the other so-called developed nations, and this is what will allow the African continent to leapfrog.

In Africa, we have close to a billion people who use only 4% of the world's electricity. Many cannot afford to keep a computer on charge during electrical outages, let alone buy one. With the advent of low-cost mobile phones, larger screen sizes and mobile device security improvement, mobile phone users and developers in Africa have learned to be more resourceful, and African mobile phones are being used to do things that the developed world is only now beginning to pick up on.

Africa is a continent where smartphones outsell computers four to one, and 60% of the continent's population is below the age of 20. When you consider these numbers, you have a technology-literate mobile generation unlike any that has come before in the history of the world, especially at a time when mobile commerce is projected to exceed traditional ecommerce.

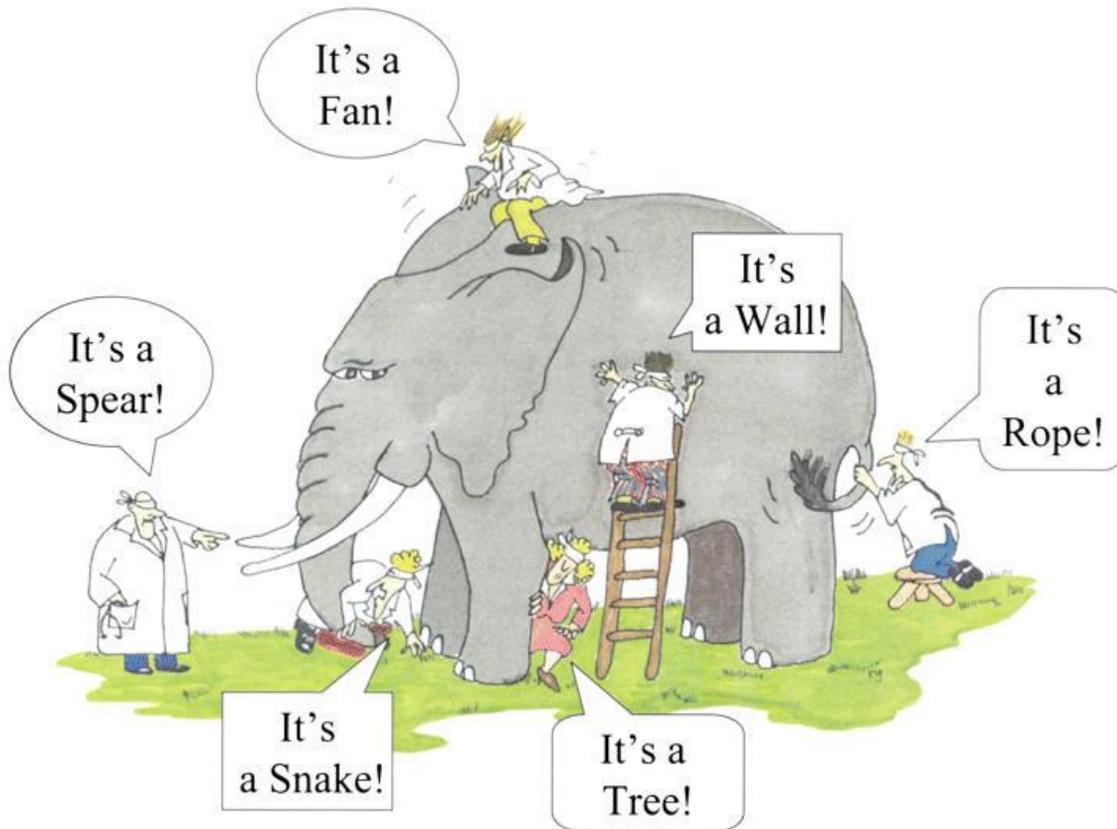
These young Africans understand their markets like nobody else, and they understand what is necessary. They know what the global trends are, and are ready to take advantage of that and create the next big wave.

African leaders have three simple choices to make. Lead, follow or get out of the way, because this generation will not sit back and watch their future mortgaged and they do not respond to threats or intimidation like the generations before them did.

This new generation of makers, doers, inventors, venture capitalists, bloggers, policymakers – the "Cheetah Generation" as the Ghanaian economist George Ayittey has called them – are the hungry grassroots who have been let down by their governments. All they want to do is reshape the continent. This is contrary to the "Hippo Generation" that are short-sighted, and sit tight in their air-conditioned government offices, comfortable in their belief that the state can solve all of Africa's problems through more centralized power and foreign aid.

Africa faces many challenges, and we can no longer rely on the tools of the past to address them. Albert Einstein once defined insanity as, "doing the same thing repeatedly and expecting different results".

All the confusion around Blockchain and Cryptocurrencies can best be illustrated by the parable of the six blind men around an elephant as you can see below.



If you want to succeed in this Blockchain ecosystem, particularly in Africa, you need to adopt what I will call the Wholeness Perspective. Blockchain brings together multiple disciplines such as computer science, law, economics, finance, governance and more. There are no experts, just continuous learning and evolution. No one has any monopoly of knowledge of this ecosystem. Traditional education isn't going to keep you on this roller coaster called the Blockchain and cryptocurrencies.

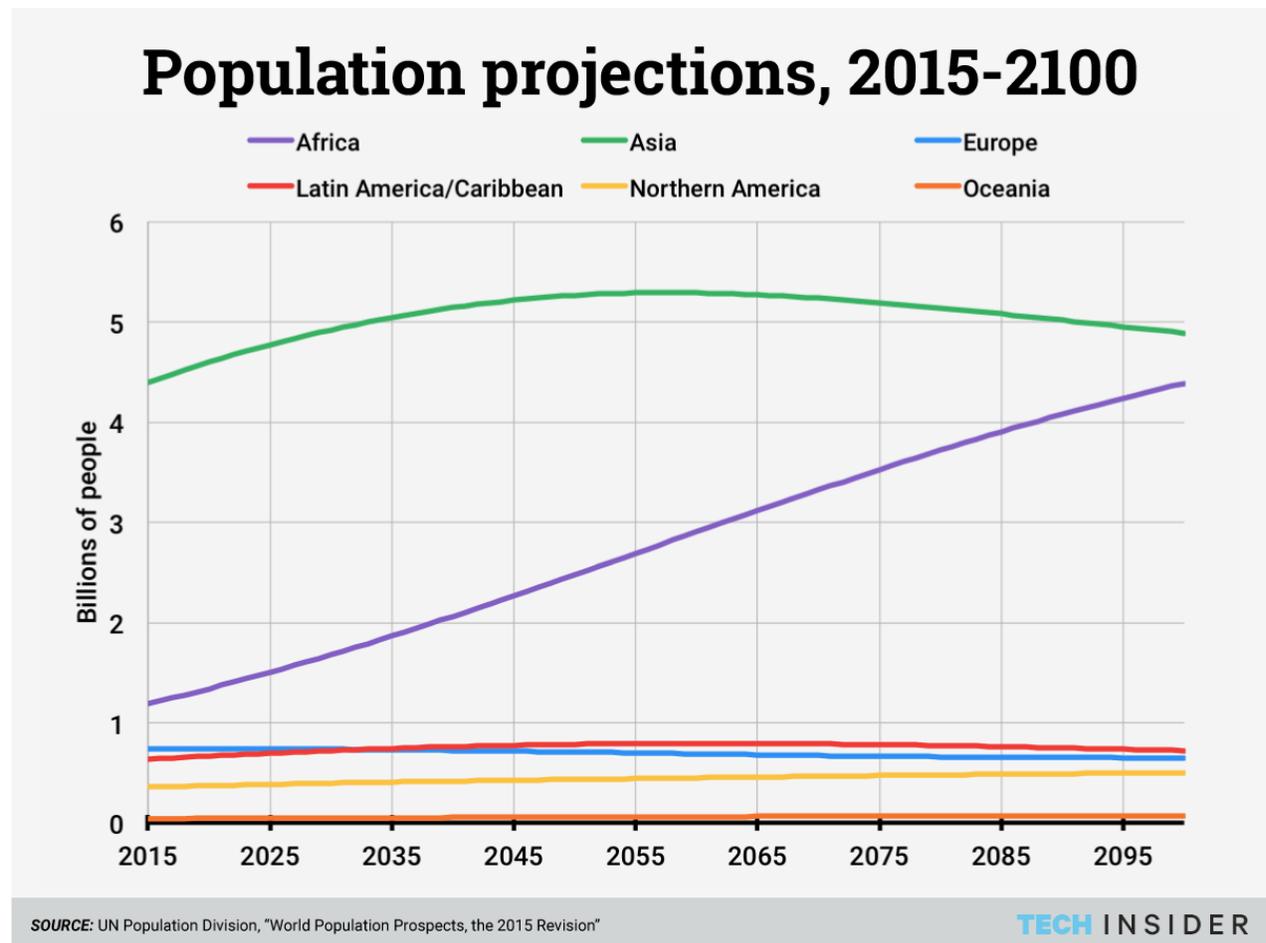
Over 95% of people who enter this ecosystem today either touch the tusks or the trunk which represent the spear and snake which are both dangerous, and in the same way, many people get hurt when they lose money trading, lose their private keys or get scammed.

When you have the Wholeness Perspective, you will be able to diversify your interests in this space and take full advantage of the Elephant and not just its individual body parts.

What other factors will play a major role for Africa?

In August 2015, Hans Rosling known as the LeBron James of statisticians shared the following tweet, *"The biggest change of our time? Africa's increase from 1 to 4 billion people!"*

In 1950, only 9% of the world's population was African. After 2050, Africa is projected to be the only major area that has a continually growing population, meaning that it will house 39% of the global population by 2100.



The population in sub-Saharan Africa is young and growing, while the population in the West is growing slowly and aging rapidly, so on the supply side, if you have fewer people, there are fewer companies being formed and a diminishing market.

I believe 2018 will be the year that Africa puts itself on the map in terms of Blockchain technology and innovation. We will not be striving to reach global standards. We will help rewrite them and even set our own standards that will be adopted by the rest of the world.

Why do I say this?

The West is currently drowning in debt, negative interest rates, quantitative easing and inflation because Western nations refused to take the same austerity medication that they prescribed to African nations in the form of structural adjustment plans and privatization of sovereign assets over the years. Western banks, fund managers, pension funds and endowment funds are looking for new markets where they can make returns that stay ahead of inflation. The only real market left in the world right now for long term growth is in Africa where they can still make double digit returns on investment.

Bitcoin and other crypto currencies are rising because more and more people in the West are losing faith in their leaders and financial systems. They see investments crypto currencies as a hedge against uncertainty, inflation and confiscation of their private assets by the state as we saw in Cyprus in 2013, Greece in 2015 when the bail-ins took place, hyperinflation in Venezuela and Zimbabwe, and the sudden demonetization in India in November 2016.

Who can tell me what the second largest economy in the world is?

The second largest economy in the world after America is called “System D” (in French, *Système D*). This is a 15 trillion-dollar annual economy made up hustlers and people who must think fast, adapt constantly, and improvise just to stay alive. They have no retirement fund, life insurance or dental plan. These are people from the underground economy who are not measured when GDP is being calculated and most of these people are in developing nations, especially in Africa.

These people are looking for more and more efficient ways to trade and exchange value, and this is where the biggest Blockchain opportunity lies for anyone developing solutions to Africa’s challenges. Lucky, an active member of the Nigeria Blockchain community mentioned some crazy trade numbers yesterday. Imagine what the numbers will be like if 1% of Nigerians started trading or participating in this Blockchain and crypto currency ecosystem. Imagine when 1% of Africans get onboard.

Since May of 2017, we have seen billions of dollars raised through ICOs, most of which will never take off, but what this has shown us is that people are willing to bypass traditionally trusted institutions and gatekeepers and invest directly into projects around the world that they believe in. They don’t need to be accredited investors and are willing to take these investment risks. In addition, countries like Estonia have demonstrated how e-government and digital economies can be used for economic development and prosperity when everything can be measured, accounted for and secured cryptographically.

Why can companies in Nigeria not raise billions of dollars from the global markets with their own ICOs? Why should they only be limited to local investors or foreign investors that must be funneled through complex bureaucratic machinery?

The Nigerian Stock Exchange could adopt a reasonably regulated blockchain solution that opens the entire Nigerian economy to ICO opportunities from investors around the world. People have raised hundreds of millions with whitepapers, meanwhile there are real world Nigerian and other African companies that could raise more if they could tokenize their products and services and re-deploy them as blockchain backed solutions for a global market. These could be entertainment, real estate, ride sharing services, solar energy grids and more.

We are living in exponential times and the only constant today is CHANGE. Regulators and those in power should not be afraid of being replaced or made redundant. Their roles will simply be redefined, and I believe that a shared roadmap is the approach that should be taken. Think of it like a relay race where each runner hands the baton to the next one. Sharing the baton with Blockchain solutions doesn't make you irrelevant. It simply ensures that we all win together by using the right tool at the right time.

Western governments and financial institutions are now using quantum computers, big data and artificial intelligence to make economic and investment decisions for their nations. Many are hiring physicists, programmers and engineers to replace their accountants and traditional bankers because they need people who understand this multi-dimensional ecosystem called Blockchain. African leaders and regulators need to start talking to their citizens who are actively involved in this space, and they don't need to even pay to talk to them, because these early

adopters are used to working for free because passion is what is driving them right now.

At FinTech in Cameroon, we have been working on various Blockchain solutions to address some of the challenges we see in Africa, related to trust, accountability and transparency. These Blockchain solutions will allow individuals and companies in Africa to evolve from localized to globally trusted entities that can exchange value in real time with anyone around the world.

Trust is the currency for governments around the world in this day and age. Globalization means that governments must eliminate lack of transparency, find ways to expand their economies, and find new ways to improve citizen engagement and accountability. Blockchain will become the universal platform for certified trust. The technology that started out as the basis of cryptocurrency is now disrupting the way dozens of governments and industries are operating. Since many African nations have been too slow to innovate, they now have to deal with this new creature called disruption. You can regulate or even ignore innovation if you don't like it, but disruption is usually like an act of God, and all you can really do is stand back and watch.

Governments, regulators, corporations and individuals will be able to use these Blockchain solutions to manage and keep track of their tokenized assets, biometric information and digital identities as-well-as have a better understanding of the micro and macro-economic effects of their various activities in real-time.

Your personal data will be owned and managed by you instead of being stored on third party services that profit from all the personal data you generate each day when you use their "free" services.

Another area of interest to us is financial inclusions. 80% of adults in Africa do not have access to banking services or credit lines for many reasons largely linked to the cost of modern banking and lack of credit scores or proof of being credit worthy. These are the billions of people who are excluded from GDP calculations, many of whom are sitting on billions of dollars of dead assets that can't be monetized because there is no mechanism to verify ownership, value or securitize them. There is no regulatory requirement that these unbanked Africans should first get a traditional bank account before adopting Blockchain and digital wallets, which make it possible for them to buy and sell locally and globally without a traditional bank account. African banks and regulators are the ones who must reinvent themselves to become part of this Blockchain ecosystem. Young Africans are now opening digital wallets on Blockchain every day, and if the Banks and regulators don't adapt, they will lose the largest demographic group in Africa and traditional banking will become something used only by people born before 1990. Let's be realistic, who wants to drive through Lagos traffic in the hot sun and fill out lots of forms just to open a WhatsApp, Twitter, Snap Chat or Instagram account or pay a fee to chat and exchange photos? They have My Documents, My Photos, My Music on their Desktops, but they don't have My Finance.

FinTech has solved some of these challenges and we will be announcing and releasing some of these technologies over the next few weeks and months.

I predict that the next wave of billionaires will be right here in Africa and they will be those who embrace the challenges we face today and transform them into opportunities using Blockchain solutions.

If you want to profit from the Blockchain ecosystem in the short term, then you can focus on the crypto-currency trading, but be ready to deal with trading bots and market manipulators. If we want the entire elephant and to profit as community of shared interests over the long run, then we should focus on the other aspects that deal with solving the real-world challenges in Africa. These will over time, guarantee steady and recurring benefits, without the depression, sleepless nights and cardiac arrests often induced by crypto trading. Once you look beyond crypto trading, you will see an entirely new landscape of opportunities, for everyone.

I will end my speech with a quote, a map and an observation.

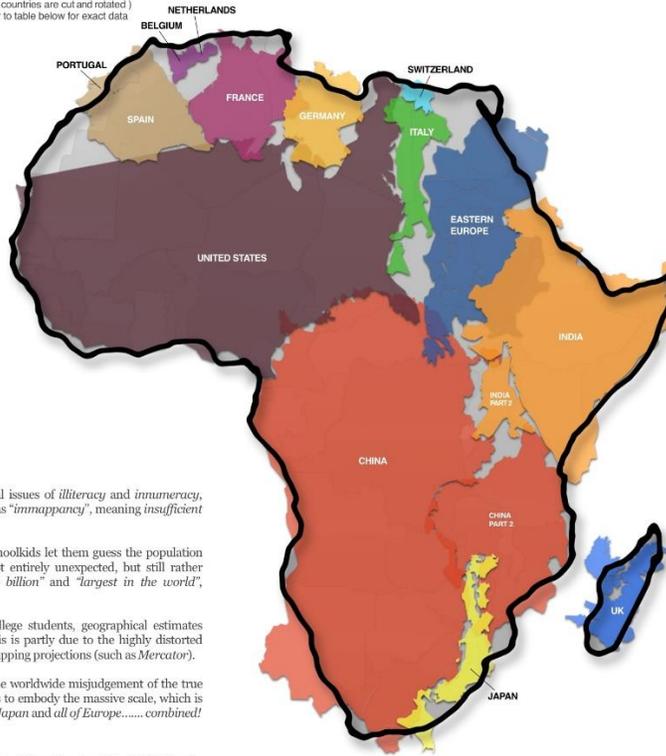
It must be remembered that there is nothing more difficult to plan, more doubtful of success, nor more dangerous to manage than a new system. For the initiator has the enmity of all who would profit by the preservation of the old institution and merely lukewarm defenders in those who gain by the new one.

- Niccolò Machiavelli

The True Size of Africa

A small contribution in the fight against rampant *immappancy*, by Kai Krause
 Graphic layout for visualization only (some countries are cut and rotated)
 But the conclusions are very accurate: refer to table below for exact data

COUNTRY	AREA x 1000 km ²
China	9.597
USA	9.629
India	3.287
Mexico	1.964
Peru	1.285
France	633
Spain	506
Papua New Guinea	462
Sweden	441
Japan	378
Germany	357
Norway	324
Italy	301
New Zealand	270
United Kingdom	243
Nepal	147
Bangladesh	144
Greece	132
TOTAL	30.102
AFRICA	30.221



Top 100 Countries

Area in square kilometers, Percentage of World Total
 Sources: Britannica, Wikipedia, Alamy.com 2010

	AREA	%	
1	Russia	17.098.242	11,52
2	Canada	9.981.470	6,70
3	China	9.596.961	6,40
4	United States	9.629.291	6,40
5	Brazil	8.511.977	5,79
6	Australia	7.692.224	5,20
7	India	3.287.253	2,26
8	Argentina	2.784.400	1,90
9	Kazakhstan	2.224.000	1,50
10	Sudan	2.509.813	1,70
11	Algeria	2.381.741	1,66
12	Congo	2.344.858	1,60
13	Guatemala	2.150.000	1,50
14	Saudi Arabia	2.149.800	1,40
15	Brazil	1.964.235	1,36
16	Indonesia	1.905.300	1,30
17	Libya	1.759.840	1,20
18	Iran	1.628.700	1,10
19	Mongolia	1.564.100	1,10
20	Peru	1.285.216	0,86
21	Chad	1.281.000	0,86
22	Niger	1.267.000	0,85
23	Angola	1.246.700	0,85
24	Kat	1.201.682	0,83
25	South Africa	1.221.287	0,82
26	Colombia	1.147.848	0,79
27	Ethiopia	1.104.300	0,74
28	Bolivia	1.098.401	0,74
29	Mauritania	1.029.500	0,69
30	Egypt	1.002.000	0,67
31	Tanzania	948.087	0,63
32	Nigeria	923.768	0,62
33	Venezuela	912.059	0,61
34	Burkina Faso	804.100	0,54
35	Mozambique	801.900	0,54
36	Pakistan	796.095	0,53
37	Turkey	784.562	0,53
38	China	768.100	0,51
39	Zambia	752.817	0,51
40	Myanmar	676.578	0,45
41	Algeria	652.000	0,44
42	Banana	601.807	0,43
43	France	602.844	0,43
44	C. African Rep	622.984	0,42
45	Ukraine	603.626	0,41
46	Madagascar	587.041	0,39
47	Burkina Faso	562.000	0,39
48	Kenya	580.367	0,39
49	Yemen	527.968	0,34
50	Thailand	513.120	0,34
51	Spain	505.999	0,33
52	Turkmenistan	488.100	0,33
53	Cameroon	475.442	0,32
54	Papua New Guinea	462.840	0,31
55	Vatican City	441.400	0,30
56	Morocco	446.550	0,30
57	Sweden	441.270	0,29
58	IRQ	436.317	0,29
59	Paraguay	406.752	0,27
60	Zimbabwe	390.757	0,26
61	Japan	377.930	0,25
62	Germany	357.114	0,24
63	Rep. of Congo	342.000	0,23
64	Finland	238.419	0,16
65	Vietnam	331.212	0,22
66	Malaysia	328.800	0,22
67	Norway	357.000	0,22
68	Cote d'Ivoire	327.800	0,22
69	Poland	312.000	0,21
70	Oman	309.500	0,21
71	Italy	301.300	0,20
72	Philippines	300.000	0,20
73	Burkina Faso	274.222	0,18
74	New Zealand	270.467	0,18
75	Gabon	267.000	0,18
76	Western Sahara	266.000	0,18
77	Ecuador	284.369	0,19
78	Guinea	245.857	0,17
79	United Kingdom	242.900	0,16
80	Uganda	241.000	0,16
81	Ghana	236.539	0,16
82	Romania	238.397	0,16
83	Leao	228.800	0,16
84	Guyana	214.969	0,14
85	Bolivia	207.600	0,14
86	Kyrgyzstan	199.301	0,13
87	Senegal	198.700	0,13
88	Syria	186.140	0,12
89	Cambodia	181.039	0,12
90	Ungary	178.216	0,12
91	Burkina Faso	160.800	0,11
92	Nepal	147.141	0,10
93	Bangladesh	143.100	0,10
94	Tibet	143.100	0,10
95	Greece	131.957	0,09
96	Nicaragua	130.270	0,09
97	North Korea	120.520	0,08
98	Nazari	118.400	0,08
99	El Salvador	117.600	0,08
100	TOP 100 TOTAL	132.632.524	89,34



In addition to the well known social issues of *illiteracy* and *innumeracy*, there also should be such a concept as *"immappancy"*, meaning *insufficient geographical knowledge*.

A survey with random American schoolkids let them guess the population and land area of their country. Not entirely unexpected, but still rather unsettling, the majority chose "1-2 billion" and "largest in the world", respectively.

Even with Asian and European college students, geographical estimates were often off by factors of 2-3. This is partly due to the highly distorted nature of the predominantly used mapping projections (such as *Mercator*).

A particularly extreme example is the worldwide misjudgement of the true size of *Africa*. This single image tries to embody the massive scale, which is larger than the *USA*, *China*, *India*, *Japan* and *all of Europe*..... combined!

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Africa is huge, with incredible natural and human resources. The official map of Africa HAS been distorted based on the Mercator Projection map, and it has a psychological effect on how we perceive ourselves as being small, weak and unable to develop on our own. The map above shows just how big Africa is relative to all the other major developed nations. If we don't build our own solutions, others will continue to write our history, shape our opinions and provide short term solutions to our problems.

Finally, my observation is that there are three types of people in the world.

Those who make things happen.

Those who watch things happen.

And those who wonder what the hell happened.

Thank you for being among those who make things happen.



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