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**The EDNA, Inc. Partnership with EDNA Africa (Pty) Ltd.**  
*The Why and the How*

Dear Prospective EDNA Investor,

EDNA is pleased to inform you of our special relationship (partnership) with EDNA Africa (Pty) Ltd. This partnership exists to facilitate resolution of several distinct issues present in much of the African Continent which bar EDNA, Inc. from easy penetration into the African market.

**PROBLEMS TO SOLVE**

**Consumer (Re)Education**

EDNA has in past papers described DNA as both a resource and an asset class. Herein we will focus first on the resource aspects of DNA. Our research has shown the unexpected and significant value of DNA to the global research community. We can easily draw a parallel between DNA as a resource and other resources present in Africa. DNA must be extracted and refined (converted to digital data) before it can be monetized. The cost for this extraction and refinement is significant (\$1,499 USD) per sample and out of reach for a great number of people. For people in impoverished areas, this number can be very far out of reach.

In order to mine and refine the DNA resource, impoverished areas will require outside investment, and in the past this has not worked well for the people of Africa. This is commonly understood across much of Africa, and has resulted in a degree of mistrust of offers to help fund resource development in many people. This mistrust creates a barrier to EDNA's future penetration into the African market.

**Data Collection**

Vast land areas, lack of infrastructure, lack of education, war and political instability all create challenges to collecting saliva samples from large parts of the continent. It is unrealistic to expect the average African villager to install the EDNA app on a phone, sign-up for services, be mailed a collection kit, follow the saliva collection procedures, create a crypto-currenty account and return the sample to the EDNA Labs for processing without any guidance or assistance. Clearly, the above conditions too create a barrier EDNA must find a way to cross.

**Safe Data Sales Proceeds**

Injecting individual wealth in impoverished areas can lead to unforeseen consequences, heightened criminal activity by those not receiving a like benefit being the most obvious. EDNA, Inc. lacks the skills and knowledge to protect its consumers when they monetize their property. The average purchase price from a research project being projected at \$250 USD, (many month's earnings for those below the poverty line) should EDNA consumer pay-outs simply be deposited into the crypto account (EDNA current design) serious problems could result for the consumer.

**WHY IS AFRICAN DNA DESIRABLE?**

**Background**

Take any two humans and sequence them, between the two, the amount of genetic variation—biochemical individuality—is about . 1 percent. This means that about one base pair out of every 1,000 will be different between any two individuals. This sounds like a very tiny difference, one pair of molecules in 1,000. [\*1] and appears small. However, the total number of actual variations however is the important piece when conducting genetic research on human disease into the causative variations responsible for the disease under study. The total number of variations between any two people will be around 3,000,000. Some of these variations are known (mapped), others are found in locations known not to encode for proteins and still others alter the amino acid sequence of the resulting protein but produces no detectable change in the amino acids function. So if "Patient A" presents with Down Syndrome or Sickle Cell Anemia and "Patient B" is disease free, which of the 3 million differences in their genomes is precipitating the disease? Clearly we need many more samples to compare before we can zero in on the gene(s) and variations causing the problem. As we unlock the secrets of the human genome (the complete set of human genes), we are learning that nearly all diseases have a genetic component. [\*2] All the science points at LARGE studies with hundreds of thousands or better millions of samples used in the studies to unlock the genetic causes underlying the diseases. This is not an opinion, this is math.

Few large-scale genetic studies are conducted on African DNA. *"But DNA sequencing is still relatively expensive for large-scale studies. Africa lags behind other continents with such studies. [#3]"*

One point not referenced in the above article is the general lack of African DNA converted to usable digital data. However, only 3% of the worlds captured genetic information is African.

**Where does Africa Stand?**

She comes in second to last only in front of South (Latin) America at 2%.

A comprehensive discussion of Human DNA on the African Continent is here: [A Must Read Web Page](#)

**The Danger of Being Left Behind**

Genetic test have already been developed that simply ignore entire populations as there is insufficient data on those populations to warrant the validation of the tests. Will the cures when found likewise ignore Africans?

<https://www.technologyreview.com/2018/10/18/1980/white-people-only-dna-tests-show-how-unequal-science-has-become/>  
<https://journals.plos.org/plosmedicine/article?id=10.1371/journal.pmed.1001100>

## SUMMARY OF THE PROBLEMS

1. Consumer mistrust of the process
2. Access to the Consumer
3. Safe and Fair (Transparent) Distribution of the Resource Value
4. Lack of African DNA and the Growing "Interest" in same by Ethically Questionable Entities

## THE EDNA, Inc. and EDNA Africa (Pty) Ltd. SOLUTIONS

Here I present our combined solutions in reverse order:

**Solution #4:** EDNA, Inc. Block-chain technology is the transparent ledger technology that can defeat corruption and unfair distribution of wealth. By establishing a market where all purchases of DNA are displayed where anyone with a cellphone can review each and any sale of DNA (the resource) TRUE MARKET VALUE can be established for the resource. EDNA, Inc. is here to create such a system. Likewise, Block-chain technology is the only way to establish true LOAN MARKET VALUE OF DNA (DNA as an asset class). Once TMV is transparently established, EDNA will move forward with a Block-chain-based peer-to-peer lending system (largely already coded) that is capable of establishing a transparent lending system (LMV) to fund loans targeting "mining of genetic data". This system allows people with insufficient assets to make use of their genetic resources to transparently find the financial tools to help themselves to a seat at the table.

**Solution #3:** EDNA Africa (Pty) Ltd. EDNA Africa designed a Know Your Client database with all required documents in order to arrange for payments between buyer and the "DNA Owner". Vital information of the person is collected on sight when the sample are taken, in conjunction with the relevant sample bar-coded ID, this information is encrypted and used for all further communication with the said individual. This "On-boarding Process" runs from the EDNA Africa database to the payment rail company, ensuring that payments are done instantaneous, accurate and without traditional administrative burdens. Naturally this is also a huge cost saver for the "DNA Owner"! Multi-signature block-chain wallets will be established for distribution and collection of funds.

**Solution #2:** EDNA Africa (Pty) Ltd. The principles of EDNA Africa have a long history of time spent "in the bush". Their ability to collect DNA based on previous contacts within African villages across the continent, is renowned.

Trust and reward principles ensure that communication lines are strengthened with every single engagement. Basic support like changing a phone number will be accommodated with the said individuals. Language barriers are overcome with translators and with no invasive procedures associated with the medical industry present (drawing blood with needles, and others) individual want to participate without fear or prejudice.

**Solution #1:** EDNA Africa (Pty) Ltd. has a long history of dealing fairly and equitably with villagers during their many years of animal protection activities. Villager trust is a non-issue when activities are carried out in areas where the parties involved in EDNA Africa have previously worked.

Direct one to one relationship with villagers are conducted at all times. The EDNA Africa Field Service Teams are not contracted out. EDNA Africa will collect samples from individuals and ensure that the sample to Laboratory logistical process is taken care of insuring community relationship is valued and protected at all times.

EDNA Africa is taking a phased approach on collecting samples in order to maintain integrity, first hand - direct contact, and will work "village to village". Strategic decisions (target location, quantity collected and so on) are made based on pertinent information of the day.

## FURTHER REFERENCES

<https://theconversation.com/why-african-genomic-studies-can-solve-the-continent's-health-issues-58962>

<https://www.forbes.com/sites/cognitiveworld/2019/04/01/the-rise-of-genetic-testing-companies-and-dna-data-race/#16a474692afb>

<https://www.ft.com/content/eed0555c-5e2b-11ea-b0ab-339c2307bcd4>

Kind Regards,  
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