

Africa beyond help! - Strategies and Tools

for UNDP 2030 Sustainable Development

Goal 16: Peace, justice and strong institutions

www.goodgovernance.africa

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Visionary Entrepreneurship and Strategies Governance – like to lead Enterprises

- Long term enterprise strategies for future market development
- External Conditions: Global trends, Political & Regulatory Environment
- Identification of problems with long term revenue potential & multiple use
- Value Added and Acceptance of costs-attached trigger levels (costs 0,5% of value)
- Win-Win for all stakeholder groups
- Customer Target: Shortest possible Return of Invest cycles;
Marx: Extended Reproduction
- Acceptance & Risk minimization trough:
Strategies with lowest possible barriers (pay per use & BuildOperateTransfer)
& self financed ScaleUp from operational profit

Software/System development best practices

Ideas, Problems, Market development

Solution proposal/tender/contract:

- Goals, terms and conditions / specific offer

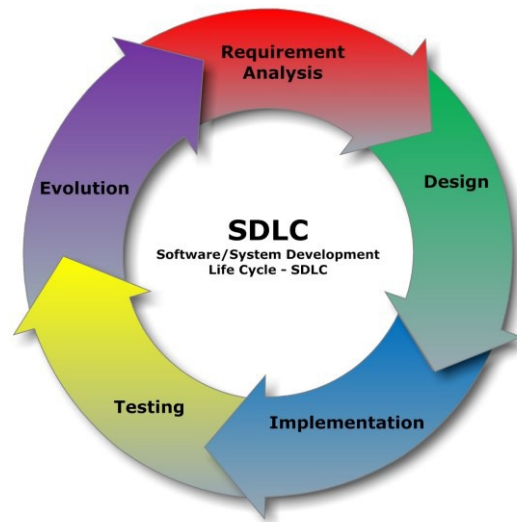
Detail implementation plan:

- Detail concept / Inception report

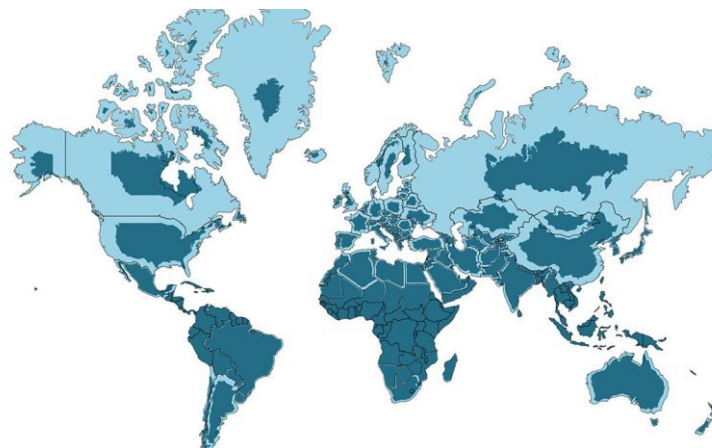
Implementation/Transition:

- Monthly / Weekly progress report
- Training report
- Project End: Final report

Maintenance/Change Management



Africa 17% world population 21% land mass 7% GDP



General misconception of the importance of Africa for humankind.

Africa is the origin and future of humankind.

Most of western world is artificial, might lose importance in the coming 30 years

Macroeconomic source of economic problems

- GDP calculation wrong, because of typically > 90% business informality
- GDP source > 70% from import and export duties, open green borders
- Typically > 50% of all taxes and royalties paid by 2% of the population

CIA 2020	Mio. km ²	F	Mio. Inh.	Inh. /km ²	GDP \$Mrd	\$GDP /person	budget \$Mrd.	budget %DE	\$budget /person	Tax	Export \$Mrd.		Inflation
DRC	2,35	6,6	105	45	47	448	5	0,3%	48	11%	15	raw mat.	30%
Uganda	0,24	0,7	45	187	35	778	5	0,3%	111	14%	6	raw mat.	3%
Zambia	0,75	2,1	19	25	26	1368	5	0,3%	263	19%	9	raw mat.	10%
Kenya	0,58	1,6	55	95	95	1727	20	1,2%	364	21%	12	raw mat.	7%
Ghana	0,24	0,7	33	138	66	2000	21	1,3%	636	32%	26	raw mat.	10%
Germany	0,36		83	232	3861	46518	1665		20060	43%	1671	Industry	4%

Africa wealth and chances

From **western perspective** Africa is only recognized as source for:

- **raw materials as continental wealth** (Cobalt, Tantalum, Tin, Tungsten, Copper...) and
- refugees from poverty (human rights, environment, conflicts)

African countries need their **fair share of economic value creation**.

New law in the western world for:

1. **supply chain due diligence** and
 2. **G20 agreement 15% total minimum taxation** should be **taken at the source!**
- chance for **transparency** and
 - **fair value participation** for African nations **along the global value chain**.

Transparency is the only tool what really fights corruption and same time widening the tax and royalty income for African nations.

Special deals for big western companies are the problem and main source of corruption.

Example of informal (illicit ?) mining in Ghana

One of the visited single informal mining operations:

- Employing **500-1000 miner** per shift in 3 shifts every day
- Mining activities at **24 underground levels**, exceeding **500 m depth (dry season)**
- Lack of mine security and sufficient PPEs; unreliable ventilation and water management
- Mining and Processing more than **25 kilo-tonnes ore per month**
- **Monthly production** of expectedly 25,000 fine ounces with a value of **40 Million USD**
- Production about **one fine ounce gold per miner a month**
- Initial investments of 250 thousand USD mentioned at this particular single site
- **Loss of taxes and royalties** of more than **24 Million USD every year** at this particular **single site**
- **Unknown customers and financial sources buying Gold valued 480Million USD/year**
- **Investors and patrons hiding behind a wall of corruption and personal dependencies, agreed and covered by opinion leaders with personal benefits**

Typical Artisanal mining structure (field studies)

- Gangs of 15 – 40 workers/gang (median of 25)
- 1 Gang per alluvial pit or underground gallery
- Typical weekly production per gang 20g – 180g (\$1,000 – \$10,000)
- Typical production per miner daily \$13 – \$50; monthly \$335 – \$1250

One sales lot = gang weekly production → 20g – 200g doré gold

Aim of Formalization

- **guarantees business continuity,**
 - **investment protection and**
 - **valuable governmental services at lowest costs and**
 - **least administrative burdens**
- ➔ **Compliance is cheaper than opportunity costs (personal risks and bribes)**

Targeting illegal export by Source Taxation

Source Taxation is the collection of royalties and taxes at the place of value creation

- Before production feeding into illegal channels financed by illicit money
- Integrated into the due diligence trade documentation from the pit until export along the trade- and processing chain according to open market rules and privacy law (acting persons and prices)
- **Transparency** for all market participants:
 - Where and when all parts of a trade lot were mined (including historic trade lot IDs after processing) ➔ **Proof of origin**
 - If all parts of a trade lot are compliant with national law ➔ **Proof of compliance**
 - Fast check for any buyers
 - Anonymous whistle blowing for non-compliant observations (status green, yellow, red)

Operations at Incubation Centers

Financial (Business) Compliance officer equipped with a tablet computer:

- Business registration
- TIN (tax identification number) registration
- Tax filing and tax returns processing
- Supervision and resource scheduling for the Financial compliance Field Team
- Taxes, royalty and work efficiency statistics

Artisanal Mining Compliance officer equipped with a tablet computer:

- Stakeholder registration, ID activation, ID renewal and licensing once every year
 - Field Squat ID enrolment
 - Miner ID enrolment/license fee collection
 - Trader ID enrolment/license fee collection
 - Exporter/Processor/Smelter application processing/license fee collection for PMMC and MC
- Mining license application management
- Training Coordination
- Weekly supervision and resource scheduling for the Mine Ward Field Team for
 - mining supervision for mining, reclamation and environmental compliance
 - production and supervision efficiency statistics
 - Trade documentation, weighing and packaging

Field Operation Squats

Equipped with one Motorbike per Team of:

- One Mine Ward
- One Financial compliance Field officer
- 5-8 site visits (pits) a day covering 500 Miner per week
- Daily travel distance 30-50 km

Responsibilities:

- Mine Ward equipped with one documenting Smartphone and Digital Scale:
 - Monitoring mining, reclamation and environmental compliance
 - Trade documentation, weighing and packaging
- Financial compliance Field officer managing the packaging:
 - Royalty collection
 - Trade Witness

Documentation, stored in digital ID trade seals

Transparent data of public interest

- Digital Trade ID (unique).
- GPS position.
- Mineral type weight and quality
- Compliance status according to national law

Private data only accessible for trade participants

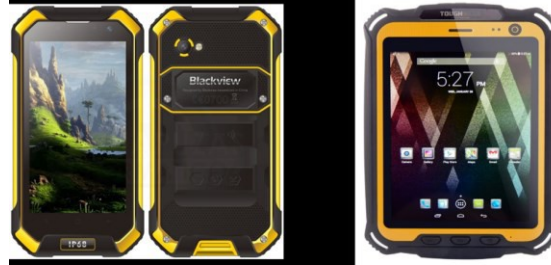
- Seller and buyer, authenticated by personal digital ID.
- Qualifying witnesses, authenticated by personal digital ID.
- Selling price.

General Incubation Center coverage and sizing

- Each Incubation Center typically covers 5,000 – 25,000 Miner (200-1000 pits)
- Employs 5-25 Field Squads of 2 officers each
- Manages 20 – 1000 gangs/mining pits each with at least one weekly visit
- Areas covered typically 25km x 25km, not exceeding 50km x 50km
- Daily travel distances not exceeding 70km → **district location selection critical**
- Every 5 Motorbikes in operation require 7, with one spare for emergency and one spare in service

Scaling for nation wide introduction (Ghana)

- Nation wide 600 field Squats in 25 or more incubation centers
- 660 (600 operational + 60 Spare) rugged Smart Phones (\$400 each) for trade documentation
- 30+ rugged Tablets (\$600) for Stakeholder ID enrolment
- 2 computer with printer at national level
- Employing more than 1250 government officers
- Coordinators with bachelor degrees in their respective fields Mining/Environment and Financials
- Field officers with professional education and experience in their respective field, former miner, assistant accountants, former military or police



Data processing in a data center or as cloud service

BOT Build-Operate-Transfer model with typical TCO including consumables at costs less than 0,5% of the traded lot value providing:

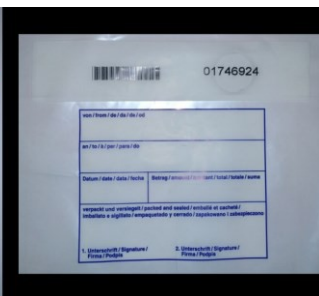
- A national data base of stakeholders with assigned licenses, roles, rights and duties
 - Companies/Cooperatives
 - Miners
 - Trader, Processor, Smelter, Refineries, Jewelers, Exporters
 - Government employees with roles assigned to the mineral value chain
- A trade documentation system providing:
 - Separation of private data and data of public interest for privacy and business trade secret protection
 - Trade lot- individual proof of origin with history after processing and compliance status
 - Detailed statistics and granular individual reports for all stakeholder and official use
 - AI-based data analysis with crosschecks, alerts, checks and balances
 - Individual work performance analysis at the field district level
 - Fast compliance and lot origin check for customers, police, customs, law enforcement
 - A whistle blowing portal for localized incident reporting and balanced escalation

Consumables (Ghana nationwide yearly demand)

- Approximately 500,000 ID-cards with integrated DES-fire NFC chip 128k (encrypted) 6\$ each with average 2-5 years lifetime (250,000 pieces per year)

At expectedly 250t Artisanal Gold per year (valued m\$14,250)

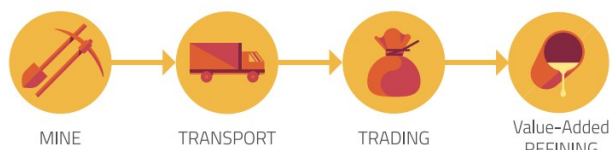
- 5 Million bags/tags with barcode and integrated unique digital trading lot-ID and integrated DES-fire NFC chip 128k (for encrypted trade records) 3\$ each for up to 200g doré gold each or for industrial base metal trade or unprocessed ore BLE locks 20\$ each to seal big bags or container



GOTS MineralTrace™ Solution

- IBES AG dev't GOTS™ platform to provide electronic traceability system for all ASM
- GOTS™ provides a law-conform tech platform and audit/ certification framework that implements secure trade docs & proof of origin system for the Precious/ Mineral supply chain
- GOTS™ compliant with Mining law (DRC), ICGLR (2011), OECD (2016) guidelines

GOTS MineralTrace™ Solution



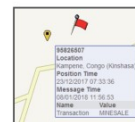
Secure cards with **RFID** chips identify trading actors and state agents through the trading chain.



Rugged phones with MineralTrace software identify persons and bags; as well as certify and audit transactions.



Tamper-proof **RFID** equipped bags protect and uniquely identify minerals/precious stones during transport.

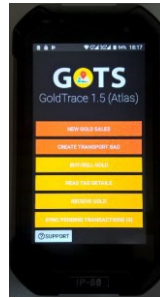
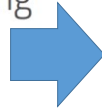


GOTS Global Database with easy to use web interface allows easy reporting.

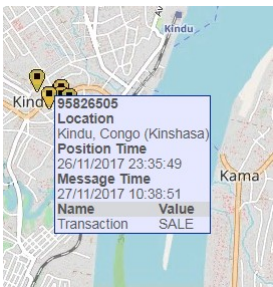
GOTS™; Extraction, Monitoring, Certification



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General Purpose of Incubation

1. Create Wealth, jobs and align SMEs with national priorities
2. Promote technological use and transfer of know how
3. Vibrant ecosystem for ASM by establishing opportunities and network of stake holders
4. Provide cost effective value added services by enjoying economies of scale in the use of marketing, legal, financial, technical and use of intellectual property
5. Progress SMEs through formalization and commercialization.

On achieving the setup goals the incubation as corrective intervention should be phased out and or handed over to primary actors to continue.