

WiFi

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Integrating Innovation into the Mining and Oil Industry through Partnerships Between Industry and Academia

by Laura Muniafu

Imagine This!



- **80%** of the population is under the age of 35 and more than half of the young population is neither in school nor employed in the formal economy.
- Private sector jobs leading to careers are scarce with almost **80%** of the general population employed in the informal sector.
- Youth unemployment rates in the formal economy top 80 percent.
- **90%** of all unemployed young people lack vocational skills, or programs that help the youth from where they are until they can break into their own – socially and economically.
- There is a clear mismatch between the skills provided by schools and universities and the ones that employers want.
- Such describes the plight of today's youth in Kenya. Even more startling is that between now and 2050, more than 50 million children will be born in this country.
- Acknowledging this stark reality creates a sense of urgency to accelerate the creation of successful strategies

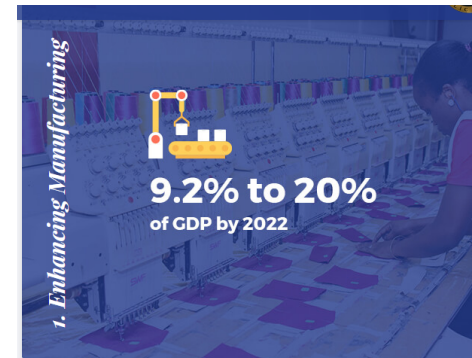
What We Know...



Kenya is at a crossroads, a moment filled with peril but enormous promise.”(President Barack Obama, July 2015)

- Youth can potentially create a demographic dividend or a demographic disaster.
- Full of energy, technology mastery, talent, and creativity – this represents a silver of good news in Kenya.
- They stand between the intersection of failures & accomplishments
- Youths not only inspire change, but they possess the energy, talents and creativity.

*“Communities that give their daughters the same chances as their sons prosper”
(President Barack Obama, July 2015)*



Our Solution

Youth in Extractives Programme

Objectives of the Youth in Extractives Programme

- To inspire innovation among the youth in dealing with different topics and challenges within the extractives industry (oil, gas, mining and related infrastructure projects);
- To facilitate dialogue among industry stakeholder and the youth on issues surrounding the extractives industry and in so doing, generate consensus and policy change in favour of youth initiatives in the extractives sector;
- To showcase the potential of African youth and in turn, inspire investment from the extractives industry into the youth;
- To provide a platform whereby through the dissemination of information and practical experience, the youth can see the great potential and opportunities within the extractives sector and infuse themselves into the industry; and
- To provide an opportunity for the youth to sharpen their professional skills with regard to emerging issues and cognizant of trends within the industry e.g. through in-depth research and submission of legal arguments.

How Kenya Envisions its Youth

Constitution of Kenya, 2010

National values and principles of governance - human dignity, equity, social justice, inclusiveness, equality, human rights, non-discrimination and protection of the marginalized - Art 10 (2) (b).

Principle of affirmative action (Article 27). Art. 55 requires the State to take measures, including affirmative action, to ensure that the youth access relevant education and training, have opportunities to participate in socio-economic, political and other spheres of life, and access employment.



Big 4 Agenda & Vision 2030



- ✓ The President of Kenya pledged his Administration's commitment to partner with the youth and open up a path for their energy and optimism noting that the Big Four plan is centered on the youth to drive the big shift from politics to prosperity.
- ✓ The president commitment to help the youth develop these skills is through the increase in **technical and vocational training institutions (TVETs)**.
- ✓ To achieve a robust manufacturing sector, the president has emphasized the need to focus on: **Improving Kenya's manufacturing competitiveness and value of Kenyan products;**
- ❖ **SME Development** : The President has offered to support SMEs owned by youth to become more productive, profitable and create jobs. The Plan is to create additional 1,000 SMEs focused on **manufacturing to accelerate growth in the sector;** and provide them access to affordable capital, skills and markets targeting the absorption of more than 100,000 youth into the job market every year.
- ❖ **Vision 2030** - Kenya Vision 2030 Second Medium Term Plan (MTP) 2013 to 2017 intends to equip the youth with necessary skills, capital and opportunities to create wealth.

Harnessing Partnerships to Foster Change

Innovation by Academia

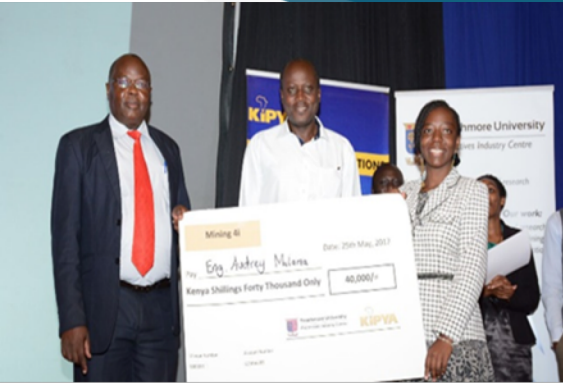
Our Solution

Energy4i

Following the success of the Mining4i, Energy 4i is a spin-off from the Mining4i forums, targeting innovations around the energy sector . The 1st successful event was held on 7th December 2017 whose winner Elijah Kiplimo (a 4th year student at Kenyatta University) won the 1st Energy4i with his innovation dubbed '*hydrolink*' targeting the measurement of hydrocarbon and water levels in a reservoir. He is currently undergoing mentorship from two of the Simba's towards commercialization of his innovation. The next one coming towards the end of this year.

Mining4i

Has been held for the last 4 years, and targets innovations around the mining sector. One of the milestones of the Mining 4i event has been the establishment of a Development Fund which supports the growth and development of the winning innovations. The current beneficiary is Ms. Audrey Mulama (a graduate from Taita Taveta University) with an innovation which uses microbiology in the gold purification process. The 4th Mining4i dubbed **“From Minerals to Manufactured Products: Enhancing Mineral Value Addition through Innovation”** took place this year on 29th May, focusing on transformational possibilities of value addition in the mining industry.



Homegrown Solutions to for Artisanal Small Scale Miners

Solution to Dust in ASM gold processing through Ball Mill innovation

ASM plays a key economic role in Kenya. ore size reduction is typically used to produce the required particle size for mineral liberation at lowest cost an energy consumption. However, challenges with typical ball mill designs include, low efficiency, high dust levels and high energy consumption.



Solution to mercury and cyanide poisoning in ASM Gold Mining

Kenya is a member state of the Minamata convention. On this basis, Audrey Mulama (a graduate from Taita Taveta University) developed an innovation which uses microbiology in the gold purification process. As a beneficiary of the development fund, Audrey has been able to receive legal assistance, funding, assistance with intellectual property protection and mentorship and has proceeded to create the KECBO who will be holding their first ever *Sensitization exercise to the Community on dangers of Mercury*. Audrey has also been selected by the Ministry of Petroleum and Mining, State Dept of Mining as the Ambassador to spearhead alternative methods for gold processing.



Solution to plastic waste menace: Corebox innovation

Manufacture of coreboxes from recycled plastic



Core boxes are one of the most essential items used in the core drilling process. During core drilling process, a cylindrical column of rock called a core sample is obtained. The core boxes provide safe storage and transportation means to the drill core samples for later laboratory analysis.

[Watch video](#)

Visit by Canadian HC to mining explorations in Kakamega. Core samples from test drilling reveal geological profile & mining potential

Thank you

Research Roundtables

Please select another Research Roundtable session to attend.

Responsible Leadership in High Intensity Contexts: The Case of American University of Beirut Medical Center: **Co-operative Bank Room**

Integrating Innovation into the Mining and Oil Industry through Partnerships between Industry and Academia: **Oak Room**

Using Case Method as a Cross-Disciplinary Approach to Business-Technical Collaboration for Oil and Gas Industry: **Almasi Room**

Contingency Factors of Corporate Entrepreneurship in Traditional and Modern Sectors: **Tanzanite Room**