



*Zambia Women in Engineering Section (ZWES)/WOMENVAI  
Workshop on STEM Education  
Nchanga Trust School, Chingola  
20<sup>th</sup> June 2024*

## Background

Zambia, like many other countries, has made efforts to encourage and support women's participation in engineering and other STEM (Science, Technology, Engineering, and Mathematics) fields, in collaboration with institutions such as the Engineering Institution of Zambia (EIZ). While significant progress has been made in recent years, gender stereotypes still persist and can influence various aspects of STEM (Science, Technology, Engineering and Mathematics), including education, career choices, workplace dynamics, and societal perceptions.

Girls in schools have continued to have less interest in STEM subjects compared to boys. This stereotype discourages girls from developing an interest in STEM at an early age or pursuing further studies or careers in these fields. At the same time, women who are already in the field continue to face unique challenges and barriers, such as gender stereotypes and limited access to professional growth opportunities that have demotivated them to practice in this fields resulting in low retention of female STEM experts.

It is for this reason that the Zambia Women in Engineering Section (ZWES), a section of the Engineering Institution of Zambia (EIZ), was formed in 2016 to promote the active participation of women in engineering and related fields. ZWES aims to foster gender equality, support professional development, and empower women to contribute significantly to sustainable development.

WOMENVAI (WOMen and Men in ENVironment and Artificial Intelligence) an international organization, seeks to advocate the interests of women in STEM globally by strengthening their roles in society in a sustainable and inclusive manner, leveraging diversity to develop new synergies. The goal is to promote sustainable development,

environmental issues, and international cooperation among women engineers and scientists. Further, its aim to promote a balanced and modern lifestyle that values professional equality for both genders.

## Objective of the workshop

ZWES, in collaboration with WOMENVAI, will hold a workshop for young girls and boys aged 10-12 years to commemorate International Women in Engineering Day (INWED) 2024.

This year, the INWED 2024 theme is ***“Enhanced by Engineering”***.

This theme aims at showcasing remarkable contributions from female Engineering Professionals across the world. It is incredible to see the profound contributions of Women in Engineering in all aspects in engineering. With less than 15% of women practicing engineering in Africa, many success stories and names have made history and known worldwide for excelling and making Africa more sustainable through engineering.

The objective of this workshop is to raise awareness of gender stereotypes in STEM\* careers (Science, Technology, Engineering, and Mathematics). It will be in two sessions as follows:

1. The first session’s goal is to break down gender stereotypes associated with technical careers by explaining to children what women engineers or technicians do on a daily basis at work and therefore serving as role models for the younger generation. This is to demonstrate learners that gender does not define technical competence; they should be aware that women have made substantial contributions to technical fields throughout history, and there are many successful women working in these professions now.
2. The second session focuses on introducing the children to engineering by having them complete an activity in electrical circuit assembly. The children will work in a mixed team of four, with each person assigned a task and given simple technical instructions. Thus introducing them to STEM, eliminating the stereotype that assumes that women are inherently less talented or interested in math and science subjects, which are prerequisites for technical courses. Additionally, this will improve their problem-solving and critical thinking skills while also encouraging creativity, innovation and teamwork.

## Details of the Workshop

The proposed program will be at Nchanga Trust School for grade 5 and 6 children aged 10 to 12 years.

Date: 20<sup>th</sup> June 2024

TIME: 10:00hrs to 12:00hrs

ATTENDANCE: EIZ officials, ZWES members, Sponsors and Partners

GRADE 5 & 6 CLASSES: 60 Pupils and Class Teachers

TOTAL: 100 Attendants

## Sponsors and Partners

For sponsorship, we are targeting the following organizations:

- 1. Konkola Copper Mines (KCM):** KCM is a mining firm located in Chingola town of Zambia and has presence in three other towns in Zambia. The company owns and runs Nchanga trust school.
- 2. Copperbelt Energy Corporation, (CEC):** CEC owns, operates and maintains power transmission, generation and distribution assets servicing customers in Zambia and the DRC, and is one of the largest international power traders in the region. Since CEC is involved in the electricity production and supply to KCM, it is a vital company to the organization. It is also important for kids to learn about electricity at a younger age and be interested in energy being a necessity in all the homes as well.



## Proposed Budget

### Project components

S/No.	Component	Quantity	Unit Price (K)	Total Price (K)
1	Card Board papers	10	10	100
2	Colored papers	10	5	50
3	Mini DC motor and stand	10	100	1000
4	Fan blades	10	50	500
5	Batteries (AA 1.5V)	20	30	600
6	Dual Battery holder/battery clip connector	10	50	500
7	Color pens	30	20	600
8	Buttons	100	3	300
9	Positive Cables (0.5mm 1 core)	10	40	400
10	Negative Cables (0.5mm 1 core)	10	40	400
11	Cable pins	20	20	400
12	Silo tape	5	30	150
	<b>SUB TOTAL 1</b>			<b>5000</b>

### Refreshments and stationery

S/No.	Component	Quantity	Unit Price (K)	Total Price (K)
1	Drinks	100	12	1200
2	Water	100	5	500
3	Pens	80	8	640
4	Pencils	80	5	400
5	Erasers	80	3	240
6	Sharpeners	80	5	400
7	Rulers	80	20	1600
	<b>SUB TOTAL 2</b>			<b>5,000</b>

### Total

1	SUB TOTAL 1	5,000
2	SUB TOTAL 2	5,000
	<b>TOTAL BUDGET</b>	<b>10,000</b>

## Agenda

TIME	ACTIVITY	RESPONSIBILITY
10:00 to 10:05hrs	Welcome speech	School Head Teacher
10:05 to 10:10hrs	Opening Remarks and Introductions	ZWES Chair
10:10 to 10:20hrs	Remarks from Sponsors	KCM / CEC
10:20 to 10:40hrs	First Session (Career Talks)	ZWES Engineers and Technicians
10:40 to 11:40hrs	Second Session (Mini Project Design)	ZWES/Learners
11:40 to 11:50hrs	Refreshments and Interactions	All
11:50 to 12:00hrs	Closing remarks/Vote of thanks	School Representative

## Conclusion

ZWES workshops in schools will be a significant step towards promoting STEM professional interest for both girls and boys from a young age. It will open their minds to electricity production as well as energy from an educative and practical point of view. By also encouraging the girl child to work hard in STEM subjects to remove the stereotypical belief of boys are better than girls in the subjects, by way of interaction with female engineers, these will pose as examples. The event will encourage and educate the young ones as well as give them a wider view of the engineering field.

Photos here below credit WOMENVAI© 2022 workshop in Cotonou, Bénin







## About WOMENVAI

WOMENVAI: WOMen and Men in ENVironment and Artificial Intelligence, a non-governmental organization in consultative status with the Economic and Social Council, France. Established in January 2018, member of the WCG- Women and Climate Group Constituency, is a unique platform gathering women and men together in STEM\* to build and bring sustainable solutions for a better world, aligned with the SDGs. Goals include the representation of women in STEM, particularly in areas with high technological added value, to benefit sustainable development and environmental issues and bridge the professional equality gap between women and men. \*STEM= Science, Technology, Engineering & Maths. KIDsVAI is a brand of WOMENVAI.

More on [www.womenvai.org](http://www.womenvai.org)

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