



NAMIPIA UNIVERSITY  
OF SCIENCE AND TECHNOLOGY

Faculty of Engineering and Spatial Sciences

# The fourth industrial revolution as a focus of research and innovation at NUST: Should we stay, or is it time to move on?

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## Contents

1. Background: What's happening at NUST?
2. What the world says about people and their capabilities.
3. Does NUST have anything to contribute?
4. Conclusion



**NUST engineering students establish Mining Society**





## What's new at NUST?

- The continuous overriding themes of NUST set up the direction for technological thinkers to embrace technology
- NUST's role is driven to focus on contributing towards ensuring digital readiness at the forefront of development. This was a quote taken from the inauguration speech four years ago and NUST is still following this focus with subtle changes to the theme



## Background

- the Institution's theme for that 2019 Academic Year was, "Catalysing Youth Empowerment for the Fourth Industrial Revolution," the urgent need for young people to embrace technological advancements.
- Fast forward to today: Consider our Institutional Research Week 2022: "the Green Hydrogen Future "and "technology, Innovation and Social Progression"



## What about people?

- While the Industrial Revolution and associated research focuses on the technology, is there more to development than this?
- Can we really move forward with development without acknowledging the people power?



## The UN take on people and empowerment:

Remarks of UN Secretary-General Mr. Ban Ki-moon at Conference on “People’s Empowerment and Development”, in Bangladesh, in 2012.

- Empowerment has long-standing efforts to protect human rights, promote job creation and obtain improved access to water, sanitation, energy, education and health care
- the goal of ensuring people have opportunities to live better lives in dignity and security.
- Then, by looking at empowerment and development together, you are focusing on broader opportunities for decent work, the chance to enjoy basic services and participate fully in the political life.



## United Nations High Level Political Forum (HLPF)

- The 2019 report entitled 'empowering people and ensuring inclusiveness and equality' is a preoccupation of governments and development partners
- ensures that people are empowered enough to participate and contribute to the development of their households, communities, countries and continents.
- This is a need to be followed through by actions in all dimensions of sustainable development and human life for it to become a reality.



# What is Empowerment?

- It's autonomy and self-determination in people and in communities.
- enables representation of interests in a responsible and self-determined way, acting on own authority.
- A process of becoming stronger and more confident, especially in controlling one's life and rights.
- Empowerment as action refers to the process of self-empowerment and professional support of people,
- Enables people to overcome powerlessness and lack of influence, and to recognize and use own resources
- Empowerment is used and connected to social development groups such as poor people, youth, older persons, persons with disabilities, Indigenous Peoples and marginalized people





## Empowerment as action: some thoughts

- Empowerment is a process for obtaining basic opportunities for marginalized people, either directly by those people, or through the help of non-marginalized others who share their own access to these opportunities.
- Empowerment includes encouraging, believing in, and developing skills of self sufficiency, with a focus on eliminating the future need for welfare.
- NOTE: Process can be challenging to implement effectively.



## A little more.....

- Empowerment fosters engagement and enfranchises people in unprecedented ways. Not only do people become more confident but they also become more committed, strategic, intuitive, creative, and analytically competent.
- We can't ignore the power of people. It means trusting people and giving them freedom to formulate ideas, permission to make decisions, and power to drive strategic initiatives that lead to success.



## So, what is NUST doing about this?



Let's enquire in FESS – the Department of Architecture, Planning and Construction.



Let's look at a brief overview of a few recent projects of the staff, students and community.



# Department of Architecture, Planning and Construction actions

## Gobabis Freedom Square

**Challenge:** Community-based informal settlement upgrading currently focuses mainly on immediate priorities of basic service provision and tenure security.

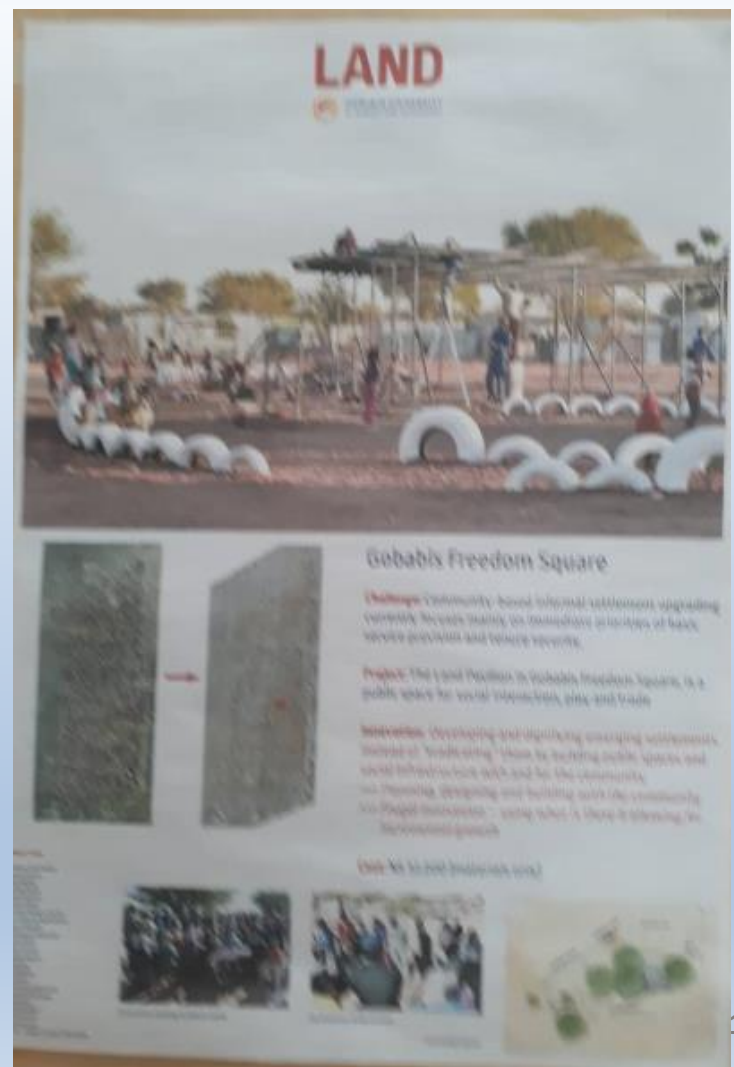
**Project:** The Land Pavilion in Gobabis Freedom Square, is a public space for social interaction, play and trade

**Innovation:** Developing and dignifying emerging settlements instead of "eradicating" them by building public spaces and social infrastructure with and for the community.

>>> *Planning, designing and building with the community*

>>> *Frugal innovation – using what is there & allowing for incremental growth*

**Cost:** NS 32.000 (materials only)



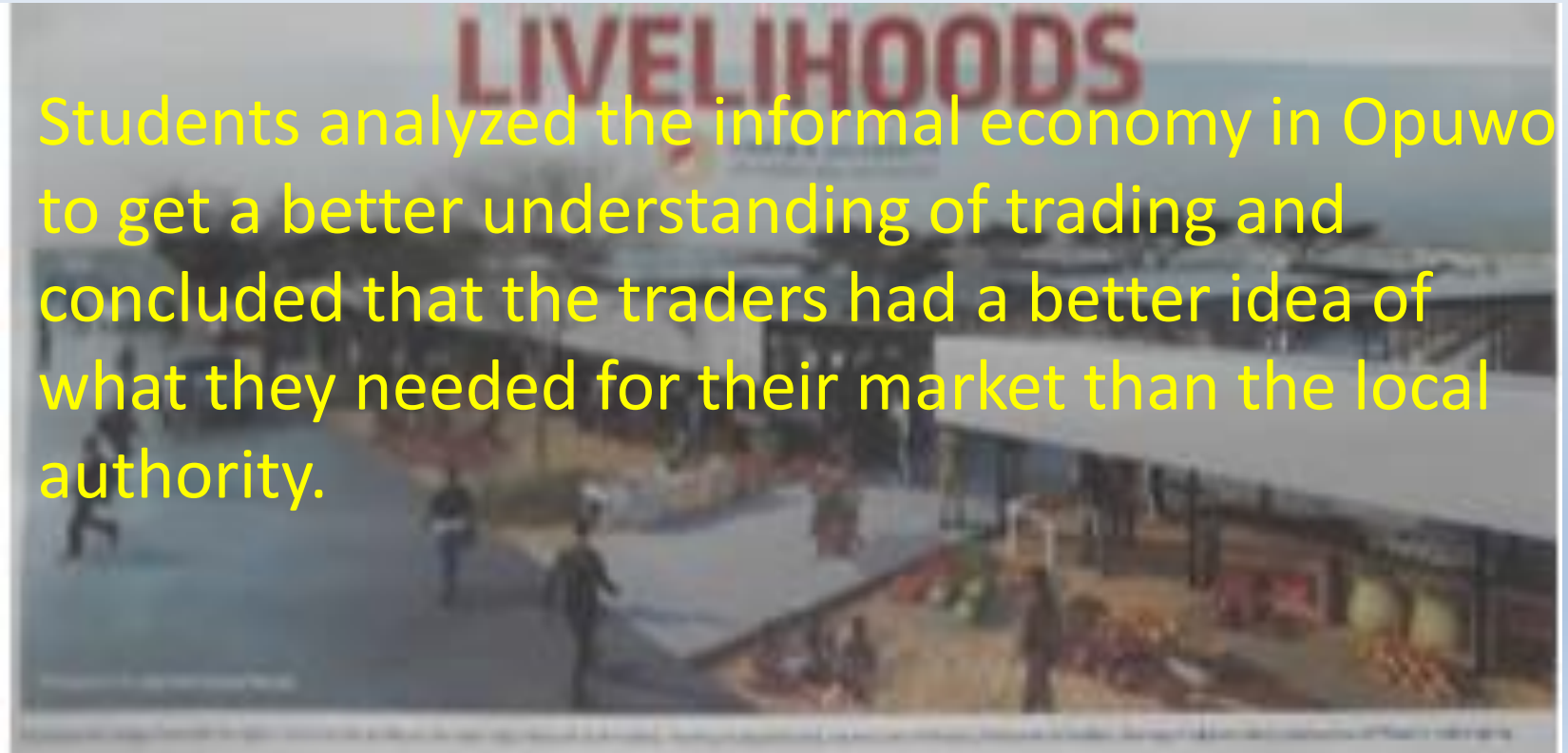


Residents of Gobabis present their planning to stakeholders.



## Empowerment in action

- Students analyzed the informal economy in Opuwo to get a better understanding of trading and concluded that the traders had a better idea of what they needed for their market than the local authority.







## Another form of empowerment by FESS

- Urban agriculture at Bio House and the Hotel School.
- A demonstration site for NUST departments, schools and organisations to visit.





# FESS project on urban agriculture: learning by seeing





# Building a water course to purify water and water the vegetables below Hotel School





Biodigester uses organic waste for improving soils and thus the agriculture.  
Constructed by WIL engineering and agriculture students.





## Conclusion

- Through facilitating a culture of innovation and experimentation around development challenges and unprecedented opportunities = hold the promise of leapfrogging development.
- This is the most powerful way of empowering people and ensuring more equitable and inclusive development.



## Conclusion

By empowering our students to think creatively and with community in mind, we can achieve great things within our Namibian community to empower and enrich people to master full ownership over projects and ideas.





# Our youth are a solution, give them a chance!

## **Their journey, our responsibility**

We must take youth seriously – they are **shaking up the present to build a better future for all.**

The youth of today find themselves excluded from decision-making. Giving them a voice in places where rules are made is not only fair, but smart: young people can bring new, creative and innovative ideas and perspectives.



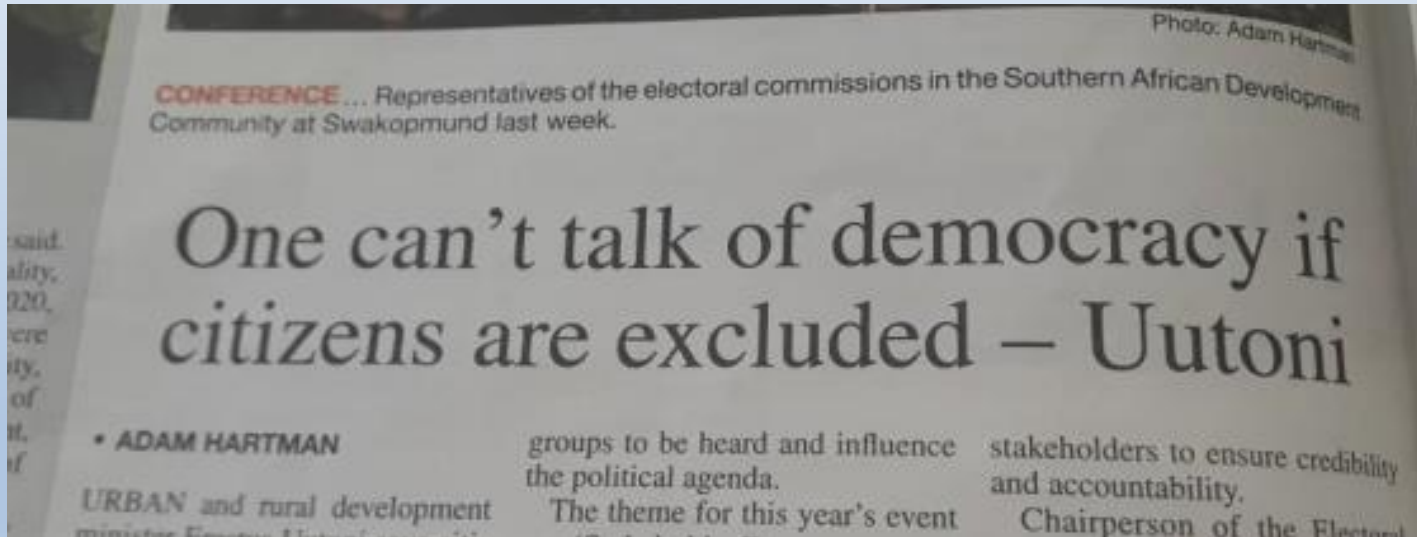
**“Empowerment** for me means several things:  
- Allowing communities to have more control on their destiny by being able to decide what is good and

# Their future, their turn

*Youth are shaping our world*

We are also seeing the most connected cohort ever: 71 percent of the world's young people use the Internet compared with 57 percent of other age groups. Especially on social media platforms, they have carved out a space for themselves to freely raise their voices to fight injustice and inequality.

# Our leaders are saying exactly this:







# References

- <https://stories.undp.org/their-future-their-turn>
- <https://hdr.undp.org/content/human-development-report-2021-22>
- <https://www.undp.org/publications/undp-strategic-plan-2022-2025>
- <https://www.un.org/esa/socdev/ngo/outreachmaterials/em-powerment-booklet.pdf>
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