NELSON MANDELA UNIVERSITY

Projects towards the Sustainable Development Goals: Example Activities from the Department of Development Studies

Dr Danai Tembo

The Sustainable Development Goals as Guidelines for Socially Responsible Universities? Symposium

Carl von Ossietzky Universität Oldenburg

25 YEARS ANNIVERSARY

NELSON MANDELA UNIVERSITY

Transition Township Project

Transition Township

- Project Concept
  - Participatory Action Research
  - Best approach as it involves maximum participation, ownership and empowerment of the research process by the residents themselves.
- Focus Areas
  - Food production
  - Renewable Energy
  - Waste recycling
  - Integrated and localized economy

Water reticulation system - conversion of existing outhouses to accommodate Jojo tanks and solar PV powered filter and pumps.

Rainwater collection detail - gutters feeding into installed water tank.

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Rainwater collection detail - gutters feeding into installed water tank.

The first food tunnel was erected on the gap-tap in February 2019.

Joint Action Project (JAP)

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- Interdisciplinary project that kicked off in 2019
- Involved:
  - NMU students – Dept. Development Studies
  - PE College students – Dept. Electrical engineering
  - Wismar University students – Dept. Architecture
  - Members of the Saltuba Cooperative in Kwazakhele.

HOCHSCHULE WISMAR
UNIVERSITY OF APPLIED SCIENCES TECHNOLOGY, BUSINESS AND DESIGN

PORT ELIZABETH TVET COLLEGE


A WORKSHOP FOR KHUSTA

Kwazakhele energy and food project could now offer pupils a study haven during load-shedding

SalTuba forges ahead with new smart building

Guy Rogers
rogersg@theherald.co.za

SIMPLE AND SUSTAINABLE: Joint Action Programme co-ordinator Hlwati Sigqibo explains how household grey water is filtered through a bag at the SalTuba Gap Tap project event on Friday Picture: GUY ROGERS

NOW THAT'S CLEVER: The smart building made of recycled pallets Picture: DANIEL HULSEWEG

It was a roof-wetting with a difference — the unveiling of a tiny smart building made of recycled pallets on a postage stamp of land in Kwazakhele, the site of the pioneering Transition Township SalTuba Gap Tap Pilot Project.

A band played, home-made lunch was served, a stand-up comic poked fun at the affable group of German architecture students who were integral to the festivities on Friday, and guests commented admiringly about the building and its fit-for-purpose style.

There was also discussion about the solar power system installed to anchor the project and why Nelson Mandela Bay municipality had not yet implemented its 2020 pledge that communities within a year would start to benefit financially from injecting renewable energy into the grid.

SalTuba Co-operative co-founder Patrick Bam said the space created by the new building and the electricity it received from the existing 15 panel 5kW gazebo-mounted solar array created many exciting possibilities.

"We want to provide a Wi-Fi and photocopying service to the community and to host scholars who are struggling to study because of load-shedding.

"We will also have a soup kitchen using the vegetables from our food garden which we do not sell, and a scale and bailing machine to help us weigh and then compact the recyclables we collect."

Launched in 2019, the SalTuba project was born out of the Transition Township research project, which was initiated by Nelson Mandela University development studies professor Janet Cherry in consultation with the Kwazakhele community, the metro's electricity directorate and half a dozen other role players.

Besides the gazebo-mounted solar power system, the project includes a food garden irrigated by greywater and rainwater collected by participating households and pumped through using electricity generated by a separate rooftop photovoltaic array.

The project is owned by the SalTuba Co-operative, which comprises 36 households in Sali and Tubali streets, which run on either side of the site, which is a "gap tap", or open piece of land, near Njoli Square.

On Friday, electrical engineer and joint action programme co-ordinator Hlwati Sigqibo said the SalTuba building was intended to provide a multi-use space that would dovetail with the existing solar power capacity and the food garden.

"To make it energy-efficient and cost-effective, the structure is raised off the ground and there is also an opening at the top, so natural cooling and heating can take place.

"We emphasise community ownership of the process and worked with them to achieve the desired outcome.

"The intention was to empower the community to do things for itself, to spread an entrepreneurial mindset, to achieve independence and thereby to reduce the load on government."

Architect Daniel Hulseweg, of Wismar University in Germany, said he and his students had become involved in SalTuba on the back of their exchange programme with NMU's social development department, facilitated by Cherry.

"Using money from Daad, the German state funding agency, we engaged with the SalTuba co-operative and established what are the issues and what are their needs.

"Then we designed a tiny structure that would meet those needs.

"We wanted it to blend in and to make it flexible so, if more funding was got, it could be extended.

"Therefore the design is modular with A-frames and columns that can be duplicated without too much extra building."

Isuzu environmental manager Ncedisa Mzuzu said the vehicle manufacturer had provided the recycled pallets and pressed board which were used to construct the building.

"Isuzu's environmental vision is to use recycled waste to help develop the community so this project fitted perfectly.

"What the co-operative has done here is probably going to be the benchmark for sustainable community development."

Energyworx managing director Khaled El Jabi said SalTuba's initial 5kW solar power system was installed as a pilot initiative.

"For two years we fed back solar power into the grid.

"There was no traction from the metro for the community to start generating an income but this project has opened the door.

"The community has persevered and we will get there eventually.

"This is the perfect 'just transition' from fossil fuels.

"Solar allows for the democratisation of energy."

Transition Township researcher Patrick Brennan said selling solar power back to the grid could be a money-spinner for the whole of Kwazakhele.

"If we put solar panels on every roof in the township we could generate R300m worth of electricity.

"Kwazakhele uses about R50m worth of electricity so residents could make R250m surplus a year."

Cherry said the metro needed to be encouraged to follow through on its highly supportive statement in 2020 regarding communities benefiting financially from feeding electricity into the grid.

In September 2020, metro spokesperson Mamela Ndamase said with the crisis of tariffs steadily increasing, customers were understandably seeking alternative energy sources and to be independent from the municipality's grid.

She said SalTuba was a winning project because it would also allow the metro to retain its customers.

"It is a positive project we wish to roll out across the city.

"The city must apply to the National Energy Regulator of SA for a feed-in tariff and once that is approved by the regulator and then council, we can from next year July ensure that the participating households get the financial benefit from the project."

Ndamase said this did not mean participating residents would get paid for the power they fed into the grid, however.

"They will get credits on their electricity accounts."

Cherry said, two years down the line, pressure needed to be put on the metro.

"What's the hold up?"

Questions were put to the metro at lunch time yesterday but no response was available by the time of going to print.

Conserve and sustainably use the oceans, seas and marine resources for sustainable development

MACQUARIE University

WIOMSA
Coasts Ocean and People
WESTERN INDIAN OCEAN MARINE SCIENCE ASSOCIATION

Science to Policy Project

Science to Policy Transfer

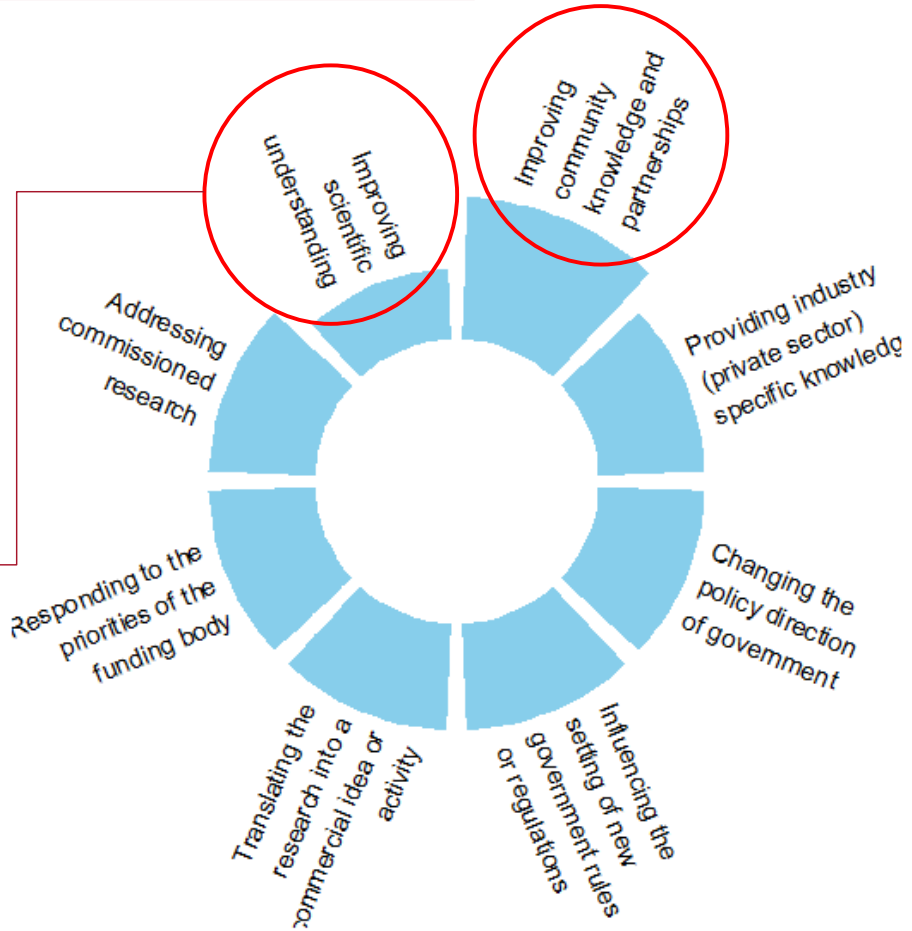
- This is an action research project designed to:
  - Improve science to policy coherence to support sustainable development outcomes; and,
  - Enhance the social capital of scientists and policymakers to increase institutional capacity, resilience, and learning.

Knowledge & Understanding

- Framing your research

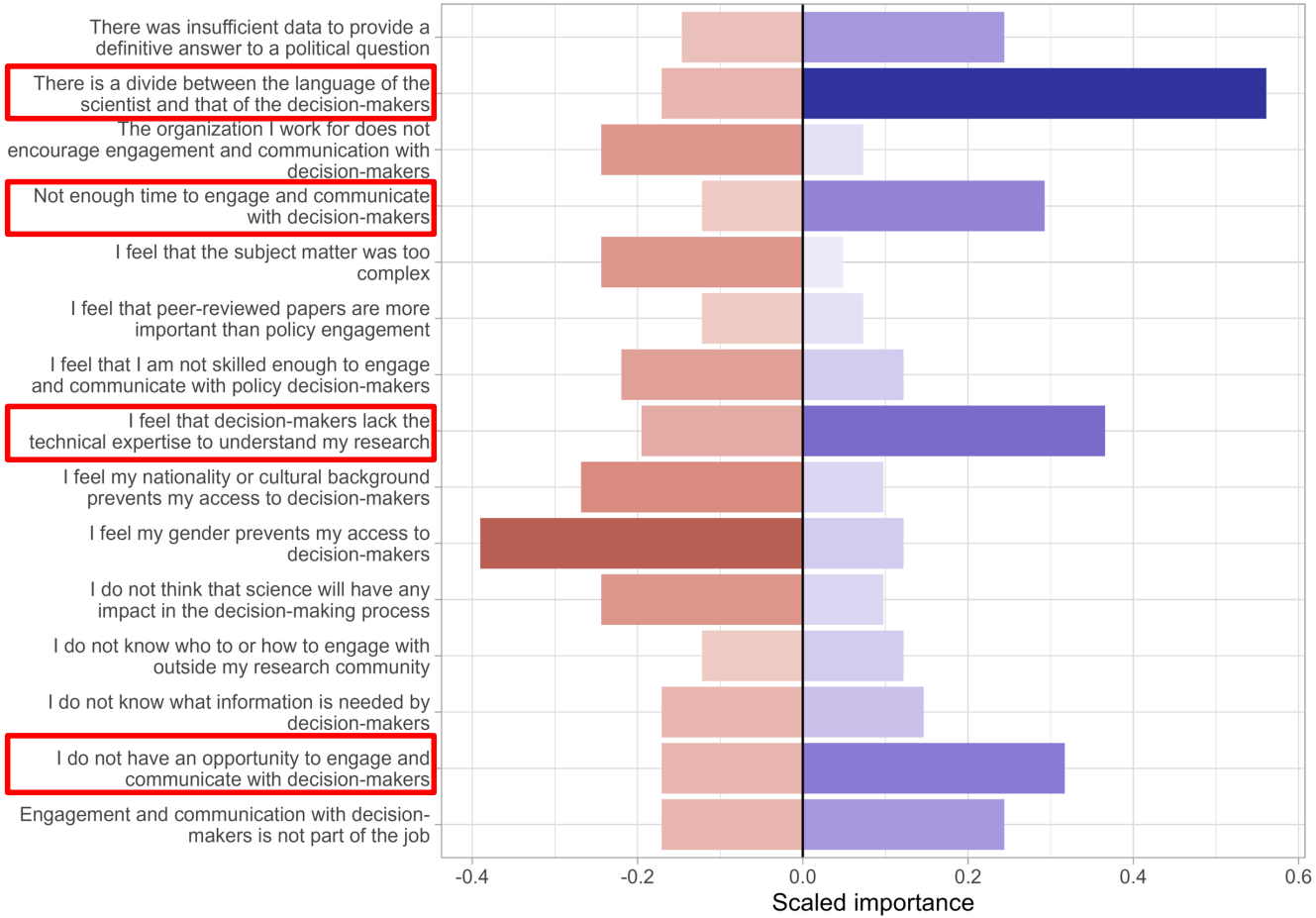
Improving community knowledge and partnerships

Improving scientific understanding



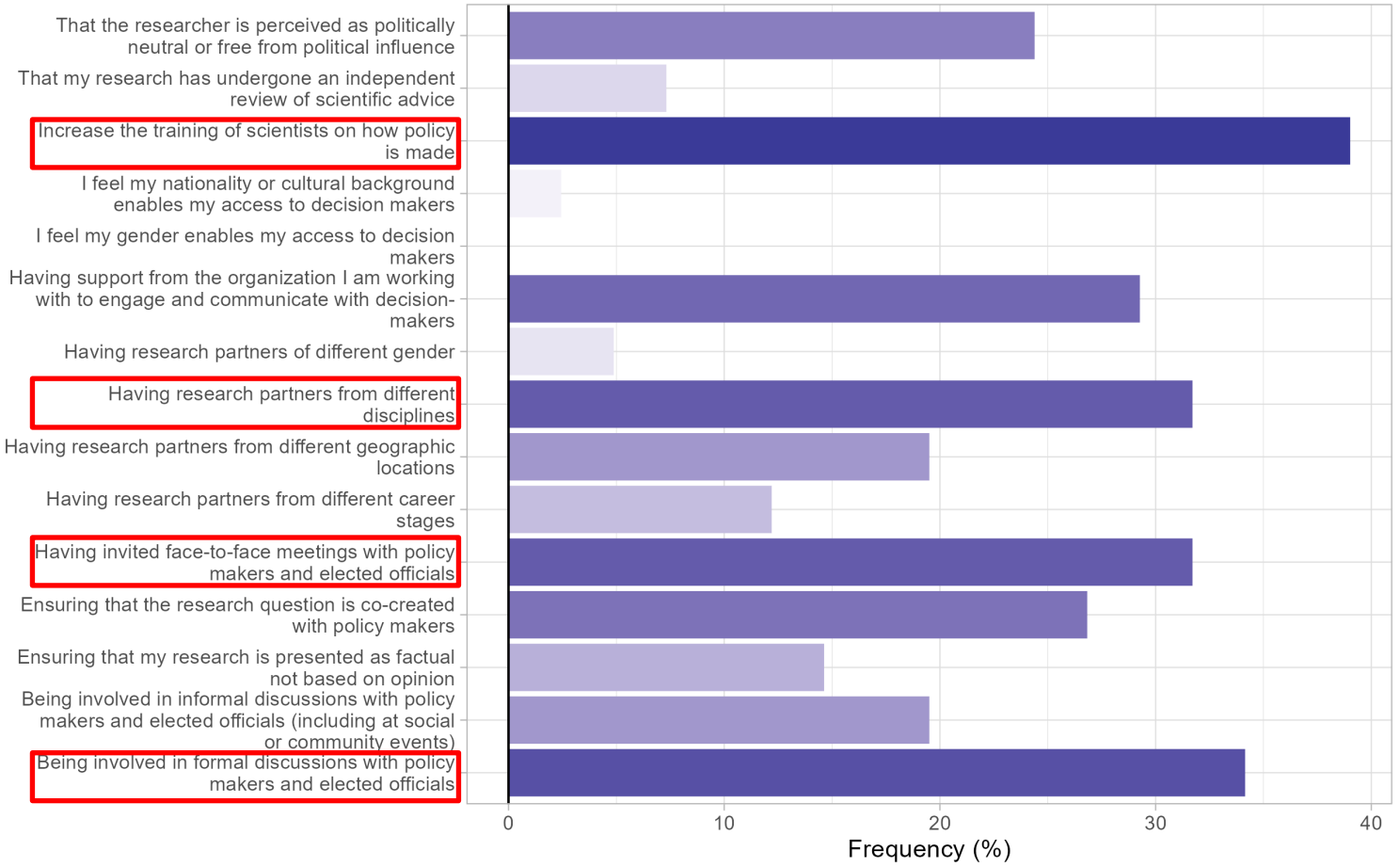
Engagement

- The relative importance of each stage of the research to scientists or policymakers
- Barriers that are the most impactful in hindering science to policy engagement
- Barriers that are the least impactful in hindering the transfer of science to policy



Impact

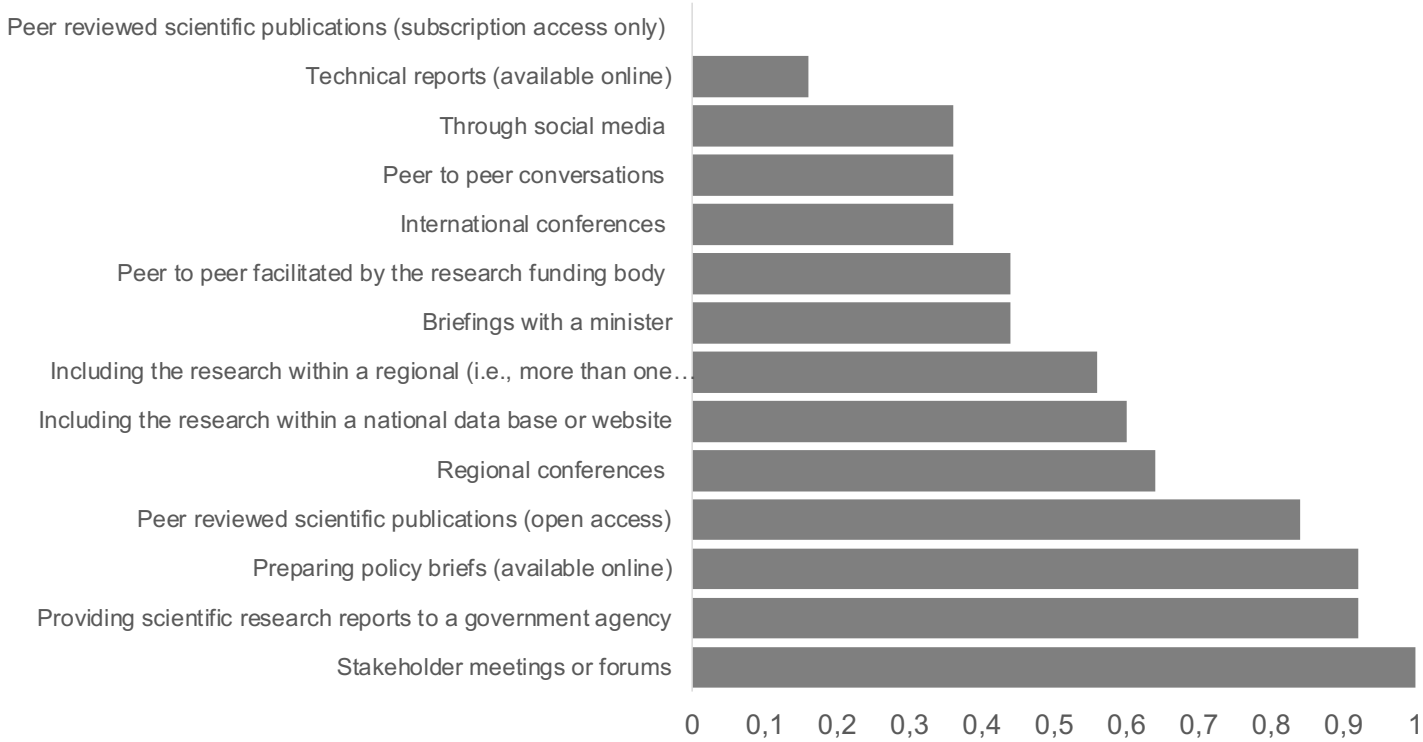
- Most impactful in supporting the transfer of science to policy
- Least impactful in supporting the transfer of science to policy



Most influential ways to inform policy

Communication & Dissemination

- The three most influential ways to inform policy
- The three least influential ways to inform policy
- Opportunities that are the most impactful in supporting the transfer of science to policy
- Opportunities that are the least impactful in supporting the transfer of science to policy.



Models of Social Ownership

Student Projects

- Asisipho Mhlonyane
  – Coastal Livelihoods

- Oyama Mkaza and Dr Bruce Damons
  – Food Systems Working Group

- Yanga Maletsheza
  – Climate Change and Food Security


Vielen Dank