

Address by the Minister of Science and Technology, Naledi Pandor MP, at the 11th Japan Science and Technology in Society Forum, Kyoto, Japan, 7 October 2014

“How do we move forward to maintain sustainability for the future of humankind”.

Distinguished Guests;

Ladies and Gentlemen:

Thank you, for inviting me to close this 11th Annual ‘Science and Technology in Society’ Forum.

South Africa has participated in the Forum since its inception, and we have found it of immense value in thinking about new ways in which to steer our science and technology system.

In deciding on how to promote science and technology we learned important lessons from Japan. Japan was once a late-comer country and spent many years playing catch-up with the US. It learned from the US about what made a national innovation system strong. Japan learned that what made a national innovation system strong was attention to three important areas: a strong annual growth in funding basic research, a strong university-industry partnership, and a strong protection of intellectual property rights, especially in risky frontier fields.

We have also focussed on these three areas. South African funding of basic research has risen sharply each year over the past decade. Our universities are no longer ivory towers remote from industry and community, but link closely into urgent national priorities. They are critical in sustaining in-depth

linkages to global knowledge resources; and committed to nation building through the ownership of knowledge production and use. We are transforming our intellectual property laws to promote and protect our research, innovation, and indigenous knowledge systems.

In South Africa we regard science and technology as fundamental to solving the difficult questions to do with sustainable economic growth, rural poverty, the built environment, education, and health. We are investing in our higher education institutions to enhance their research capability in the global challenge areas of climate change, biodiversity and food security.

There are three comments I would like to briefly share with you.

First, we need to understand the nature of the rapid changes, geopolitically, scientifically and societal, which are shaping all aspects of our world in the 21st century.

Our world is changing more rapidly than ever before. Not least among these changes are the greater interconnectivity and ease of travel between countries and continents, which means developments such as disease outbreaks in one region rapidly spread to another.

Simply put, our problems are also our neighbour's problems. Ebola has presented us with a continent-wide challenge. HIV-Aids, malaria and tuberculosis are on the rise in regions previously considered to be safe from their disease burden, whilst non-communicable including lifestyle diseases now have a devastating impact in the developing world.

More than ever we need greater global solidarity. Especially, and this is perhaps the most pressing societal challenge of our time, to confront the rising, unacceptable and very dangerous inequalities, which impact on all aspects of our society. Nowhere is this more evident than in the huge discrepancies we all face in regard to affordable health care.

Second, we must leverage the new prominence science, technology and innovation's interface with societal challenges enjoys in the global political discourse.

It is not only the nature of our challenges, which are changing, but also the actors involved in responding to them. In research and innovation, the role of non-state actors such multinational companies have become essential, informing the need for new and innovative models of public-private partnerships. State actors too are changing. Emerging economies have stepped up their investment in research and innovation and new South-South alliances offers new options for international cooperation.

As we seek to understand and respond to these changes, it is comforting to know that the role of science, technology and innovation as instruments for sustainable development, including in improving the quality of lives of our citizens, is featuring prominently on the political agenda. Despite the constraints of the economic crisis, many countries have sustained and even increased their national research and innovation investments.

Third, we have the responsibility to develop new partnership modalities for international research and innovation cooperation, to effectively respond to the opportunities and challenges of sustainable development.

Consistent with the global dynamic of intensified regional political and economic integration, regional cooperation in science and technology should be intensified, especially to address policy priorities such as public health and food security, which due to the inter-connectedness between countries, are best addressed at the regional level.

International partnerships should be co-owned and co-determined by all its constituents. The time of the traditional North-South donor-recipient paradigm has passed. Developing countries today are at the forefront of global scientific discovery as highlighted for example by the pioneering work undertaken in South Africa in areas such microbicides to prevent HIV-Aids, as well as drug and vaccine development for malaria and tuberculosis.

In this connection let me turn to the SKA – arguably the most exciting global science project for the twenty-first century – which will be proudly co-hosted by Africa.

The construction of the MeerKAT, the South African designed and funded precursor to the SKA, is on track. The world's scientific community is waiting with bated breath to start fully using it for science in 2016. MeerKAT will be a powerful instrument in its own right. Investments such as MeerKAT have started to attract some of the world's leading astronomers to South Africa, with several taking up full-time positions at South African universities. South African scientists, who are part of our SKA programme, recently won acclaim in the prestigious journal Nature for a new discovery of black hole. The world sat up and took notice.

The global project is progressing well too. We are currently in the pre-construction phase, preparing for construction proper to start in 2018. The current global investment is more than R2 billion in this design phase - an impressive figure but dwarfed by the ultimate anticipated investment of more than R30 billion for the full SKA construction. These are only the construction costs. The operational costs and aggregate impact on the South African economy will be several billion Rand more per annum during the lifetime of the telescope, which will extend over several decades.

It is not only South Africa that is excited about the SKA. India recently joined the project – an important boost after Germany’s withdrawal – and several new members are waiting in the wings. Even a country such as Portugal, where all public spending has been severely curtailed, is applying to join the SKA. Work will start next year to establish a new dedicated international treaty organisation, similar to that of the renowned CERN organisation in Geneva, to be the international custodian of the SKA – a sign of global confidence in the project.

Our partnerships with the eight other African nations that will host remote stations of the SKA remains strong and we are developing with them, in preparation of the full SKA, a new African network of telescopes, the African Very-long Baseline Interferometry Network or AVN.

This brings me to science, technology and innovation in Africa. We recognise that we need to be part of a vibrant African research and innovation system. So we look for international cooperation to support science and technology capacity-

building elsewhere in Africa. For this goal we seek to leverage our comprehensive portfolio of international relations and are keen to partner with Asian, American or European nations in reinforcing African capacities.

South Africa will also be one of the champions for the new Science, Technology and Innovation Strategy for Africa (STISA) adopted by African leaders at the July 2014 African Union Assembly. STISA will focus Africa's science, technology and innovation investment in six socio-economic benefit areas: one, eradicating hunger and ensuring food security in Africa; two, preventing and controlling disease, and ensuring human welfare in Africa; three, improving intra-African communication, through investing in physical and digital infrastructure; four, protecting Africa's natural resources; five, building African communities, addressing aspects such as democratisation, urbanisation and conflict resolution; and six, creating wealth for Africa. Science is indeed at the heart of the AU's Agenda 2030.

Our world is ever more fragile as we struggle with climate change and sustainability. But If we have the political will we have a real opportunity to make a difference in science and technology.

Thank you.