Address by Naledi Pandor MP, Minister of Science and Technology, at the Gender Summit Africa, ICC, Cape Town, 28 April 2015

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It gives me great pleasure to address you today.

There is a Chinese proverb - “Women hold up half the sky” - that is attributed to Chairman Mao, but I think is derived from Confucius. I am not sure that Mao and Confucius, living in different centuries and attached to different political ideologies, would have agreed on its meaning.

Nonetheless, the proverb has come to have a progressive meaning today and most women know that it means winning full emancipation, full equality, and a full recognition of their talents.

Gender inequality and unfair discrimination have had devastating global consequences. More women die in wars than men. More women live in poverty than men. More women are unemployed than men. More women have been denied an education than men.

Yet if we use women’s talents, then we all benefit. If we use women’s talents, we can build a better world.

China’s economic success over the past 30 years did not come from hiding women’s talents in the home. It came from bringing women out of the home and into the world of work. China’s phenomenal economic growth serves as a source of inspiration for many of us in Africa. In particular, what impresses us is that China’s economic transformation has been driven by the investment in science, technology, and engineering.

In the last decade Africa has ramped up its investment in scientific research. A 2014 World Bank report revealed a growth in the quality and quantity of sub-Saharan African research (the report excludes South Africa). Over the last decade sub-Saharan Africa's share of global research publications has increased from 0.44% to 0.72% (equal to South Africa's share). Nearly half of this research has been in health sciences and this is welcome in the face of Africa's health challenges.

There is clearly a growing scientific base in Africa. Yet women are still under-represented in the fields of science and technology. Women are still under-represented in top research managerial positions. Women are still under-represented in science, technology, and innovation policymaking.

The challenge for Africa is to ensure that the gender imbalance in the practice of science, technology and innovation activities is addressed. None of us here underestimates the importance of science, technology, and innovation for socio-economic development in both the developed and developing world. The involvement of women in STI activities is thus critical in contributing to the development of nations.

What do we do in South Africa to promote women in science?

South Africa has a well developed research base and network of public science research institutions focussing on key priority areas. The scientific discoveries and technological developments, for instance, in the areas of nuclear research, biotechnology, advanced materials, defence technologies and aerospace and ICT have opened up new avenues for innovation, industrial development and productivity in these technology-based industries. Advances in biotechnology specifically, are providing headway in the development of new drugs, and the prevention and treatment of TB, HIV/AIDS and other sexually transmitted diseased. Specific achievements in these areas have improved the stature of South Africa globally in important domains of scientific priority such as health, space industry and environmental sustenance.

Yet we have not unleashed the scientific talent of half of our people. Strangely we have a gender balance in favour of women at university but a research balance in favour of men. We have a gender balance in favour of women in higher education, but women lag behind in taking up science careers, lag behind in going on to undertake PhDs.

We need to be innovative in encouraging girls and women to take up careers in science.

In my department, science and technology, we run a number of incentive programmes. Our Thuthuka programme has 3 fast tracks for women academics: PhD, Post-PhD and Rating, and has been in existence since 2001. Our Centres of Excellence have multiple objectives including building research excellence focusing on programmes and issues of national strategic importance. Regrettably out of a total of 16 centres, only one is

led by a woman. The South African Research Chairs Initiative (SARChI) targets the development of postgraduate students and emerging researchers. At the centre of this incentive programme is redress and equity. In 2015 there were 157 research chairs and, while half the doctoral students were men and half were women, only one in five SARChI professors is a woman. Our latest call for 20 chairs is for women only.

In the recent past, South African women scientists have won a number of international awards, specifically the L'Oreal award for Africa and Arab States. Professor Jill Farrant won it in 2012 for "the elucidation of mechanisms by which plants overcome drought conditions". Professor Tabello Nyokong won in 2009 for her ground-breaking research on a new cancer diagnosis and treatment methodology called photo-dynamic therapy that is intended as an alternative to chemotherapy. Professor Jennifer Thomson won in 2004 for the "development of transgenic plants resistant to viral infections, droughts and other risks". And Professor Valerie Mizrahi won it in 2000 for her work on molecular biology.

They are blazing the trail for women scientists.

That gives you some perspective. We have made some progress in creating an enabling environment for the progression of girls and women in the science, technology and innovation sector.

However, only one in three published scientists is a woman, and she is younger and less qualified than her male colleagues. Much more can be done. We need more incentives to support and recognise women in research, as without them

significant change is unlikely to take place. Visible success for women scientists will ensure women play a role in key emerging sectors of research, such as energy, health, and the bio-economy.

What is South Africa's relationship with other scientific communities on the African continent?

Many international organisations are devoted to increasing the participation of women and girls in science. For example, the Academy of Science of South Africa opened a chapter of the Organisation for Women in Science for the Developing World (OWSD). Recently, the Academy has been awarded a bid to host the southern Africa focal point activities of an international initiative, GenderInSITE.

South Africa chairs the Southern African Development Community (SADC) S&T group, which has a 10-year plan for the SADC. Drawing from its Gender and Development Protocol, SADC has recognised the need to address gender-based issues. The SADC WISET initiative, endorsed by southern African Ministers of Science and Technology in 2008, has emerged as the primary platform to promote access to STI education and professional networks. This initiative has also emerged as the means to ensure greater participation of women researchers, scientists and technologists in decision and policy-making institutions within the region.

South Africa also supports the New Partnership for Africa's Development (NEPAD) flagship projects, specifically the African Institute for Mathematical Sciences (AIMS), the African Laser Centre and the Southern African Network for Biosciences

(SANBio). South Africa is also part of the pan-African university and 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. Science is at the heart of the AU's Agenda 2063. During the recent African Union Summit held in January 2015, the African Heads of State and governments declared the year 2015 as the "Year of women empowerment and development towards Africa's Agenda 2063", another important milestone in recognising the role of women in Africa's development.

South Africa, together with eight other African partner countries, drives the SKA radio telescope. The SKA will be one of the biggest scientific projects the world has ever undertaken. The SKA project is an international effort to build the world's largest radio telescope, with a square kilometre (1 million square metres) of collecting area.

Africa's share of the SKA project means that the continent is set to become a sought-after science destination. Over the next decades, many top scientists and research students will come here for cutting-edge science. The SKA will collect and process vast amounts of data and will stimulate cutting-edge advances in high-performance computing. Producing the thousands of dishes required for the SKA within the project's time scales will also demand an entirely new way of building highly sophisticated and sensitive scientific instruments, which should lead to innovations in manufacturing and construction.

This mega project is an ideal platform to excite young women about a SET career, and to deliver skills that will be in demand in the global knowledge economy of the future.

South Africa continues to work towards strengthening bilateral partnerships with other countries in the region and the continent with the view to support and implement sub-regional and continental programmes. South Africa strongly believes that it is only through collective efforts that African countries can address the shared challenges facing our continent through partnerships in research and technology.

We have to do more to increase women's access to scientific knowledge, especially if we are to tackle the development challenges that face the most vulnerable on society.

The distinguished women scientists gathered in this conference have an important role to play in placing Africa firmly in the global conversation about science. I would like to encourage you to take critical responsibility for shaping the future of STI in African countries.

I thank you.