

**WORLD SCIENCE FORUM
CAPE TOWN, SOUTH AFRICA
DECEMBER 6-9 2022**



Brief report prepared for ARUA CoE for NCDs

by

Roseanne Njiru, PhD.

Department of Sociology, Social Work & African Women Studies

The World Science Forum (WSF) 2022, convened under the theme, “Science for Social Justice”, took place from December 6 - 9 2022 in Cape Town, South Africa. The WSF is a series of biennial conferences organised in partnership with leading global science organisations, including the United Nations Educational, Scientific and Cultural Organisation (UNESCO), the International Science Council (ISC), the InterAcademy Partnership (IAP), the World Academy of Sciences (TWAS), the European Academies’ Science Advisory Council (EASAC), the American Association for the Advancement of Science and the initiator and historic custodian, the Hungarian Academy of Sciences (MTA). It was the first WSF to take place in Africa. The event brought together from across the world, scientists, public policy makers, government officials, industry leaders, media representatives, students as well as representatives from broader civil society, especially from communities often excluded from these types of events. The Forum had various plenary and thematic sessions, as well as side events, to exchange ideas on the growing interdependence of science and society, and to deliberate on what role science should play in ensuring resources, opportunities and privileges are accessible to all, and distributed in a fair manner in order to address global challenges facing humanity.



The WSF 2022 subthemes were: science for human dignity; science for climate justice; science for Africa and the world; science for diplomacy as well as justice in science (see programme attached). Roseanne Njiru represented the University of Nairobi’s ARUA Centre of Excellence for Non-Communicable Diseases at the Forum.

His Excellency, the President of South Africa, Cyril Ramaphosa officially opened the World Science Forum (WSF) on Tuesday, 6 December, at the Cape Town International Convention Centre. President Ramaphosa challenged delegates to ensure that the WSF would not only be a



platform for debate, but that it would also result in concrete action towards the betterment of lives and livelihoods. He called for fair and equal access to scientific innovations and discoveries to close the gap between Global North and South economies: “Science for Social Justice expresses our conviction that inequality within and between countries is neither just nor sustainable. This event will inspire concerted global action for science to

challenge and address inequality, injustice, poverty, environmental destruction and marginalisation.” The president, as well other speakers, hoped that the event would contribute to advancing the African agenda for science, affirming the crucial contributions Africa has to make in enriching global science. He challenged the forum to consider these five questions: (1) What role should science play in protecting human dignity and fighting poverty, unemployment and global inequalities such as Covid-19 vaccine inequality; (2) What role should science play to enable a just climate transition to minimize impact and secure the lives of those most affected? (3) How can we ensure the contribution of African science is recognized as a resource to global science? (4) What role should science play in reinforcing multilateralism and global solidarity that is on the rise due to geopolitics; (5) How do we transform the nature of scientific enterprise making science more reflective of what we want (e.g., make open science a reality, and issues of ethics and integrity in science).

The same sentiments were held by the Minister of Higher Education, Science and Innovation, Dr Blade Nzimande, who spoke during the opening ceremony. He emphasized the need for ensuring that science reaches the most vulnerable; the necessity for an African solidarity to pursue goals for advancing science and technology; research funding for Science and Technology for advancing Africa to contribute to world justice;

and dialogue between Global North and South and intergenerational dialogues. In addition to Minister Nzimande, the speakers on the first day of the forum included Professors Roula Inglesi-Lotz, Co-Chair of the Global Young Academy; Tamás Freund, President of the Hungarian Academy of Sciences; Felix Dakora, President of the African Academy of Sciences; Sir Peter Gluckman, President of the International Science Council; Dr Shamila Nair-Bedouelle, Assistant Director-General for Natural Sciences at UNESCO (pictured above), and Princess Sumaya bint El Hassan, President of Jordan's Royal Scientific Society.



The forum featured a packed programme that included 28 thematic sessions, which explored how science could improve lives for all in the 21st century. These thematic sessions included the following (click [programme](#) for more).

- ❖ Building bridges for early career scientists: global experiences on impactful leadership training and networking
- ❖ Climate justice: seeking equitable solutions to adverse effects of climate change on health

- ❖ Establishing an African knowledge democracy for increased social justice and development
- ❖ Responding to Pandemics: Science and Human Rights
- ❖ Health, Climate and Social Justice in African Cities
- ❖ Localized Science, Technology and Innovation Roadmaps for the achievement of the Sustainable Development Goals in Africa
- ❖ Getting Women into Academies and Scientific Leadership: Mentoring Works
- ❖ Different lens, better outcomes? Intersectionality as a critical component of gender transformative research
- ❖ Intersections between social justice and the free and responsible conduct of science
- ❖ Challenges of Urbanization: Food Security in Africa
- ❖ Open Science and a Just, Equitable Scientific Enterprise: Promises and Pitfalls



Summary of Key note lectures and plenary discussions in line with the 5 main sub-themes of the forum.

1. Science for human dignity - What role for science in fighting poverty, unemployment, inequality and exclusion?

- ❖ Dr Gabriela Ramos, UNESCO's Assistant Director-General for Social and Human Sciences delivered this key lecture and inspired a thought-provoking conversation about the role and relevance of science in global affairs.
- ❖ Science should not exist for the sake of science but must also influence policy, politics, inequality and technological innovation.
- ❖ Social and Human Sciences (SHS) are key for science and all are essential for ending human crisis.

- ❖ Science must be defended from vested interests in order for it to meaningfully influence policy.

- ❖ Four areas where science can deliver for social justice:

1. Inequality
2. Gender
3. Artificial intelligence
4. 4.climate



- ❖ Make science count: Science has delivered but not the policies. For instance, we have a lot of science data on climate but we are going against what science tells us to do due to unresponsive policies.
- ❖ Gender inequality- changing structures of discrimination could end inequalities. We cannot talk about social justice and leave women behind. Not about science but mindsets and politics. (Need to change MENTalities)
- ❖ Digital transformation, Artificial Intelligence (AI): Global inequalities exist with regard to who gathers, analyses and distributes data. How are we shaping digital transformation to reduce these global inequalities? Is the AI technology contributing to human rights and dignity? To end inequalities? Protect environment?
- ❖ Need for a Science that is not manipulated, one that responds to human rights.

2. Science for climate justice - How can science working with civil society lead the way in correcting the failure of climate policy?

- ❖ Dhesigen Naidoo, Adaptation Lead, South African Presidential Climate Commission delivered this key note lecture II and emphasized the following:

- ❖ There was a rapidly narrowing window of opportunity to enable climate resilient development.
- ❖ Society must make choices about adaptation, mitigation and sustainable development.
- ❖ Significant trade competitiveness was a risk to climate justice due to the carbon emissions- intensive economy.
- ❖ Need for just transition framework for climate justice that envisages:
 - Equitable distribution
 - Inclusive approaches
 - Active support
 - Previously disadvantaged populations
- ❖ Principles for a just transition:



- Distributive justice
- Restorative
- Procedural justice
- ❖ Science and innovation should empower climate change
- ❖ Health risks due to climate change: heat, food insecurity, mental health.
- ❖ Climate affects determinants of health including social support systems
- ❖ Climate science works against the achievement of social justice



- The very definition of climate change is different for different organizations
- Narrow definition of climate change.
- ❖ COP27- Rich countries must stop stalling talks on climate loss and damage compensation.
- ❖ Climate science must include gender perspectives
- ❖ There should be no competition over what science is superior to the other. Every science counts, both hard and social science
- ❖ The Education system has created the silos in which scientists work. For example, the creation of schools and faculties etc.
- ❖ Indigenous knowledge is dismissed because it is not sophisticated.
- ❖ Need social scientists to answer how science is consumed. For example, scientists create vaccines and wonder why there is low uptake of the vaccines. Need to be aware of the cultural sensitivities to vaccine uptake. For example, oppressed groups have been subjected to harmful medical treatments that make them develop vaccine skepticism.

3. Science for Africa and the world - How to unleash the potential of African science in global cooperation?

- ❖ Key note Lecture III was delivered by Tshilidzi Marwala, Vice-Chancellor and Principal, University of Johannesburg. The lecture and plenary discussions brought out the following:
- ❖ Africa collaborates more with the rest of the world than within. This dynamic needs to shift.
- ❖ The safety of the Africa region will require high quality growth and policy implementation. But policies need to be framed in a manner that speaks to advancement and are ethical.
- ❖ AI could expand Africa's economy by 15 trillion dollars by 2030. Existing Tech hubs mostly driven by youth. Kenya, SA and Egypt emerged as top growths in Africa in the last 10 years. Mauritius, Egypt, South Africa, Kenya are Africa's blue print for AI.
- ❖ There exists a misconception that there are no technical skills in Africa. There are, they are just not enough.
- ❖ Required: regional collaboration to ensure harmonization, collaboration, open data and information sharing.
- ❖ Need to build science and tech infrastructure that integrate with existing social and economic infrastructure: e.g., water, education
- ❖ Emphasis on global collaboration- all countries have necessary technology and skills for development.
- ❖ Incentivize African researchers
- ❖ Science will not work if the science community is not densely connected. Therefore, create dense networks of collaboration. Collaboration maximizes impact of collaboration by avoiding duplication of efforts and resources.
- ❖ Remove barriers to collaboration that restrict economic growth.
- ❖ Build global partnerships that are not exploitative.
- ❖ Figure out the tools we need, policies we need to rethink, science and global cooperation is the answer.
- ❖ We need science for Africa or IN Africa. Science arrives in Africa already formed, dictated by donor funding.
- ❖ Develop the potential of young people on the continent.
- ❖ Science needs to recognize the cultural richness of why and how we do science.



- ❖ Need for Transdisciplinary research. For example, There is a lot of untapped knowledge in our communities. Scientists do not talk to other knowledge systems.
- ❖ Open science: based on human right to science, everyone should participate in the creation of science, based on principles of fair relations and inclusion, and diversity (we should not be the same).

4. Science for diplomacy - How can science reboot multilateralism and global solidarity?

- ❖ This Key not lecture was delivered by Peter Gluckman, President, International Science Council (ISC).
- ❖ Science for diplomacy: The use of science or scientific knowledge to directly or indirectly influence diplomatic goals

- Track 1: Initiated by governments and mediated by diplomats
- Track 2: Initiated by scientific community or seeded by government but mediated by NGO actors(scientists).



- ❖ Today's realities:
 - Multilateralism is fracturing
 - Multilateralism has dealt poorly with conflict, Covid etc
 - Multilateral agreements ignored
 - Nationalism rising
- ❖ Covid and science diplomacy;
 - National systems failed to respond to risk assessment
 - Weak multilateral system: such as WHO
 - Geostrategic dimensions: vaccine nationalism, Differences in Global-South vaccine and technology access.
- ❖ Science in international policy making: science-policy interactions complicated by national and jurisdictional interests.
- ❖ Science in the UN system: UN complexity- and UN is not the only body. UN should play a greater role in science- support and collaborations
- ❖ Two big challenges:

- Bridge gap from science to actionable knowledge
- How to promote risk listening: bridge gap between scientifically identified risks and political/policy actions.
- ❖ Change the composition of science- more women, young people, people of color.
- ❖ Greater impetus to the role of Africa in science- for Africa and the globe.: It is rare to see science and innovation in Africa. Focus has been on education and food because “ Africa needs food”
- ❖ Insert science into multilateralism: Strengthen multilateralism. Science cooperation can reboot multilateralism
 - Develop robust systems funded by government
 - Integrate and synthesize different national and global frameworks in action plans.
 - Multi-Stakeholder involvement
 - Funding for implementation of research and policy
 - Leverage on bilateral partnerships: regional and global.
 - Need to support universities for TRANSDISCIPLINARY research in Africa
- ❖ Scientists need to lead in making arguments for science for social justice. They should not leave it to politicians.



5. Justice in science - How to ensure science reflects the society we want?

- ❖ Key note address V was delivered by Alondra Nelson, Deputy Assistant to the President and Deputy Director for Science and Society, White House Office of Science and Technology Policy.
- ❖ Ensure a Science that fosters equity, accountability and justice
- ❖ Engage with marginalized and tribal peoples to incorporate and elevate indigenous knowledge and govt research in decision making.
- ❖ Science as a global social good:
 - Not acceptable that one side of the world remains the site of experimentation while the other part benefits.
 - Unequal power relationships in the co-construction and production of knowledge.
 - Need funding frames that are broader and more audacious
 - Interdisciplinary and transdisciplinary science

- More Women in science
- Rebalance the relationship among the different sciences. For example, STEM should not eradicate the teaching of history in schools.
- Science is not to serve scientists but to serve community
- Performing responsible impactful research and innovation
- Out with scientific silos and IN with collaboration and sharing.
- People-centric, nature-based, value-driven.



Based on all the events of the WSF, the forum concluded with the following Declaration

Declaration of the 10th World Science Forum on Science for Social Justice

Text adopted on 9 December 2022, Cape Town, South Africa

PREAMBLE

With the encouragement and support of the partner organisations of the World Science Forum, the United Nations Educational, Scientific and Cultural Organization (UNESCO), the International Science Council (ISC), the Hungarian Academy of Sciences, the American Association for the Advancement of Science (AAAS), The World Academy of Sciences for the advancement of science in developing countries (TWAS), the InterAcademy Partnership (IAP), and the European Academies' Science Advisory Council (EASAC), as well as of our host, the South African Department of Science and Innovation, we, the participants of the 10th World Science Forum, held from 6 to 9 December 2022 in Cape Town, South Africa, adopt the present declaration.

World Science Forum (WSF), an outcome of the 1999 World Conference on Science, is a biennial event that since 2003 has been successfully assembling scientists, policymakers, industry leaders, civil society and the media to discuss the role of science in meeting global challenges.

In line with the recommendations of the 1999 World Conference on Science (WCS) and the Use of Scientific Knowledge, and taking into account the 2011 Budapest Declaration on the New Era of Global Science, the 2013 Rio de Janeiro Declaration on Science for Global Sustainable Development, the 2015 Budapest Declaration on The Enabling Power of Science, the 2017 Jordan Declaration on Science for Peace and the 2019 Budapest Declaration on Science, Ethics and Responsibility, we reaffirm our commitment to the rigorous and ethical conduct of scientific

research and the free and responsible use of scientific knowledge for sustainable development to the benefit of all humanity.

Science for Social Justice – a responsibility, an opportunity and a commitment

With humanity being confronted by key global challenges such as pandemic disease, climate change, food insecurity, biodiversity loss, conflict, migration and persistent poverty, science more than ever is called upon to make a critical contribution to create a more equal, fair and just world and to set an ambitious agenda to ensure a better future for generations to come. This call for action informed the choice of “Science for Social Justice” as theme for the WSF 2022, a responsibility for all concerned with and involved in the scientific enterprise.

Social injustice is a major cause of global insecurity, as evidenced by increased geopolitical conflict and tension, and strained international solidarity. Increasing scourges of our society, such as wide-spread violence, loss of social mobility, exploitation of various social groups, discrimination and exclusion, including mental health challenges for many, have their roots in social injustice. Science must assume a greater role in addressing and reversing these damaging dynamics and do so through an intersectional lens.

Discussion at the Forum identified several possibilities for science to play a more decisive role in ensuring resources, opportunities and benefits in society are accessible and are distributed in a fair manner. This Declaration sets out the commitment by Forum participants to meet this responsibility and seize the opportunity for the production and application of knowledge to challenge inequality, marginalization, environmental destruction, climatic disruptions and other forms of social injustice.

We therefore commit for our actions to be guided by the values of Ubuntu that is respecting the universal bond of sharing that connects all humanity, as well as by human rights principles and standards, and to working together to harness the power of science to achieve the ambitions of the Sustainable Development Goals (SDGs), which underpin social justice.

We also undertake in our respective spheres of influence and responsibility, for our policy- and decision-making with regard to the advancement of social justice, to be guided and informed by robust scientific data, evidence and advice.

We will prioritize efforts to support the translation of research results, through both technological and social innovation, to be applied for the benefit of all of society in support of social justice.

We will safeguard, nourish and promote the unique ability of science to inspire progress, to foster tolerance, to unite, and to care for the vulnerable, through concerted public engagement and

communication actions, building awareness and understanding of the role of science in support of social justice.

1. Science for human dignity - What role for science in fighting poverty, unemployment, inequality and exclusion?

All individuals and groups have the right to be respected and hold a special value tied solely to their humanity. Human dignity across our world is diminished by poor socio-economic conditions denying opportunity and increasing exclusion.

We call for science funding agencies to foster a step change towards interdisciplinary, multiscale and inclusive research agendas informing pathways to greater equality, and to develop a global science agenda concertedly focused on poverty alleviation. We commit our efforts to support it.

We acknowledge the important role of science in ensuring advanced technologies create new opportunities and do not marginalize anyone.

We underscore the importance of ethical scientific endeavors and will strive for our actions to be informed by international agreements such as the Recommendation on the Ethics of Artificial Intelligence of UNESCO that aims at guiding technological developments to deliver inclusive, sustainable and fair outcomes.

We call for increased investment in education and science, recognizing that basic science, as celebrated by the International Year of Basic Sciences for Sustainable Development, constitutes the foundations of future innovations, economic prosperity, and societies strengthened by solidarity and democracy.

We call for renewed support for the social sciences and humanities, as these disciplines play a vital role in understanding societal challenges, including the role of harm reduction science, which informs greater empathy for people with addictions, helping us to shape a more equal and inclusive world.

2. Science for climate justice - How can science working with civil society lead the way in correcting the failure of climate policy?

The 27th Conference of the Parties to the United Nations Framework Convention on Climate Change (COP27) re-emphasized the urgency for science to deliver for our planet and all its people in supporting climate action. We agree with the conclusion of the IAP Communiqué on Global Green Recovery that at this unprecedented inflection point, we need to seek low-carbon socioeconomic pathways to protect and promote human health and enhance the prospects for an equitable recovery compatible with the commitments in the Paris Climate Agreement. Indeed, it is clear that tackling climate change can provide health co-benefits for all as evidenced in the report of the IAP on Health in the Climate Emergency: A global perspective. Our world requires a

deliberate and renewed partnership between science and civil society, ensuring a science agenda that will enable a just transition. Science must be at the heart of a transformative mitigation and adaptation agenda, with particular emphasis on the needs of developing countries and underprivileged communities that are most vulnerable. This will require a closer and more productive partnership between the natural sciences and social sciences and the humanities. The science community must ensure that scientific research, modelling and innovation feature prominently in discussions on investment to combat and mitigate climate change, particularly with regard to loss and damage budgets, so that the voice of science is not lost to political and economic interests.

We call for the reinforcement of the participation of civil society in the shaping of the global science agenda for climate justice, which will ensure the representation, inclusion, and protection of the rights of those most vulnerable to the effects of climate change.

We urge investment in scientific solutions that promote equity, assure access to basic resources, and ensure that future generations can live, learn, play and work in healthy and clean environments. In this regard, we recognize the recommendations of the IAP Report on Global Health Inequalities: Research for a fairer future.

We commit to the principles enshrined in the UNESCO Declaration on the Ethics of Climate Change.

We urge investment in scientific solutions that promote equity, assure access to basic resources, and ensure that future generations can live, learn, play and work in healthy and clean environments. In this regard, we recognize the recommendations of the IAP Report on Global Health Inequalities: Research for a fairer future.

We acknowledge the importance of support for technology transfer to, skills development in, and scientific collaboration with developing countries, in support of climate action.

We are cognizant that what we need for advancing a just climate transition, is knowledge about values, decision-making, behavioral change, underpinned not only by the natural sciences and technology, but also by strong support for the social and human sciences.

We recognise that our children will bear the brunt of climate breakdown, ecosystem collapse and the ravages of forced migration, we therefore commit to putting the best interests of future generations at the very centre of our science, policy, research programmes and social justice agenda.

3. Science for Africa and the world - How to unleash the potential of African science in global cooperation?

At the national, regional and continental levels, an African agenda for science, technology and innovation to respond to social justice is emerging. This is also a resource for the world, as

responding decisively to global challenges requires an inclusive global response. The full and effective participation by African scientists and by other developing country scientists in global science is therefore an imperative.

We call for global science programmes, including in frontier sciences and those traditionally dominated by developed countries, to be more inclusive, and for those framework conditions, which may discourage the active participation of especially African scientists, to be addressed.

We acknowledge and celebrate the excellence and achievements of African science as a resource for humanity. We recognize that more could be done by African and other developing-world nations to support science, including by accelerating their efforts to achieve their own commitments to increase investment in science, technology and innovation.

We support continued investment in capacity-building programmes for African science, including research infrastructure partnerships, researcher mobility and training schemes, and other cooperation instruments.

We support the creation of pan-African technological innovation hubs to cooperate with other research organisations, to foster inclusive and sustainable research practices effectively addressing the needs of civil society.

We call for international collaboration schemes that make sure that investment made in science by developing countries, with special emphasis on the training of researchers is preserved and shall not become unwarranted by alarming trends of brain drain.

4. Science for diplomacy - How can science reboot multilateralism and global solidarity?

Science diplomacy is a valuable instrument to bring nations and people together, focusing attention on our shared challenges, which can only be addressed by our joint efforts, surpassing political differences. With multilateralism under threat and global insecurity contributing to increased polarization, the investment in international science collaboration, enabled by multilateral programmes and other partnerships, is more important than ever.

We acknowledge the importance of science diplomacy as an instrument for peace, and call for the values of science, to inspire a greater commitment to global collaboration and solidarity.

We urge the global science diplomacy community to enshrine continuity in its internal and external engagement structures and to ensure that changing political and multilateral environments do not hamper its ability to communicate and advise.

We call for investment in researcher mobility programmes, especially for young scientists, to build people-to-people relations as a response to increased geopolitical tension and insecurity.

We call for the reinforcement of the role of science as enabler for collaboration within multilateral programmes, and to strengthen especially the institutions of the United Nations and their role in these.

5. Justice in science - How to ensure science reflects the society we want?

Science should not only advance social justice it should be inspired and identified by the values of social justice, such as greater transparency and inclusivity. This will require a renewed commitment to Open Science and research integrity. Working to renew the scientific enterprise will also transform society and advance humanity.

We recognize the need for the scientific enterprise to evolve to make it more responsive to the needs of society, without neglecting our commitment to invest in the basic sciences, as an investment in the future.

We reaffirm our determination to advance science as a global public good, and accept our mutual responsibility to ensure the free and responsible conduct of science.

We call for greater inclusivity in science, systematic and concerted efforts to eliminate gender and racial imbalances in the scientific enterprise and remedies for exclusion which denies opportunities for full participation in science.

We also urge for concrete and impactful actions that contribute to reducing the gender gap in science, technology, engineering and mathematics.

We recognize the crucial role of early career scientists in advancing science for social justice and therefore call for enhanced support for their career development and engagement in science policymaking, including through support for the Global Young Academy and national young academies.

We stress the importance of the UNESCO Recommendation on Science and Scientific Researchers, which promotes human rights, inclusivity, freedom and responsibility in science to guide the response to this Declaration.

We acknowledge the importance of the UNESCO Recommendation on Open Science and call for support for its implementation especially to advance the objectives related to Open Access and Open Data.

We accept our mutual responsibility to ensure integrity and respect for the ethical conduct of science.

We commit to respond decisively to the “Science for Social Justice” Call to Action as set out in this Declaration.