



Transforming education for a human-centred approach to STI and SDGs

ILO / IATT Side event at the STI Forum, 4 May 2022
12:00 – 13:15 EDT (18:00-19:15 CET) (75 Minutes)

Link to the Webinar: <https://ilo-org.zoom.us/j/96912214570>

For more information on the STI Forum visit: <https://sdgs.un.org/tfm/STIForum2022>

Humans are central actors in processes of innovation and technological change, and yet their role is insufficiently recognized in discussions about how to harness Science, Technology and Innovations (STI) for progress towards the SDGs. A collaborative research project is therefore implemented by the ILO Research Department jointly with the Analytical Work Stream of the Inter-Agency Task Team on STI for SDGs. Based on the ILO's Human-centred approach a *Human-centred approach to harness STI for progress in SDGs* will be elaborated.

This research project aims to create awareness for the central roles of human beings in shaping innovation and transformation processes and for education and learning to enable human beings and societies to perform these roles. Experience shows that harnessing STI for SDGs is a complex process, and that progress is still slow in many countries despite government strategies to support this process. This challenges the models and frameworks which we use to explain innovations and technological change, and has motivated the IATT to develop a new framework which places human beings centre stage. The framework aims to explain the unique functions and different roles of human beings in this process. Only humans can create new ideas and visions of the future, humans search for knowledge, inventions and discoveries, and human beings reflect and take decisions, manage processes of change and use their agency. In this sense, innovation may be considered an intrinsically human-centred process in economies.

While there is wide agreement that education, training, skills development, and learning is important for achieving SDGs, the human-centred approach to STI shifts attention to the important role of learning to mobilise creativity, to nurture beliefs, attitudes and mindsets which support change, and to develop competences and human agency. This dynamic perspective on education is often neglected in economic models explaining innovation, technological change, growth and development. Their focus tends to be on investment in

general education, and lifelong learning and skills development for productive use of new technologies in firms, and employability of workers.

The dynamic framework to accelerate progress in SDGs suggests that each society is challenged with transforming education to provide learning opportunities for children, youth and adults to build the capabilities to trigger, shape, and manage innovation and transformative changes. Disciplines such as education, pedagogy, sociology, and cognitive science provide important insights on learning for human traits, competences, attitudes or agency for innovation and change. They also show that such learning for change is not limited to education methods and teaching approaches in schools. It also relates to learning models such as apprenticeship, socialisation in social networks and communities or learning in organisations. Merging the insights from different disciplines on the roles of humans in innovation processes and of learning to perform these roles effectively will raise important policy issues and inform policies on transforming education and learning for harnessing STI to accelerate progress in SDGs.

Session Agenda

1. Presents conceptual and empirical arguments for a human-centred approach to STI and SDGs.
2. Provides insights on education and learning for innovation and sustainable development and discusses policy implications for transforming education.
3. Presents three cases from Brazil, Tanzania and Zambia on innovative education and training approaches which nurture capabilities, creativity, personalities and agency for innovation, transformative changes and sustainable development.
4. The Q&A session provides a platform to engage in an agenda-setting process and discuss future research to advance the human-centred framework for SDGs.

Moderator

Mr. Richard Alex Roehrl

Senior Economic Affairs Officer, Team leader, Department of Economic and Social Affairs, New York, United States

Panellists

Ms. Irmgard Nübler

Senior Economist, International Labour Organization, Research Department, Geneva, Switzerland

Ms. Dorothea Kleine

Professor, Co-director, Institute for Global Sustainable Development (IGSD) Research Theme Lead, Digital Technologies, Data and Innovation, University of Sheffield, United Kingdom

Fr. Christian Temu OSB

Abbot, Missionary Benedictine Abbey, Ndanda, Tanzania

Ms. Rita Afonso

Professor, Federal University of Rio de Janeiro, Faculty of Business Administration; Lab Technology and Social Development, and Design for Social Innovation and Sustainability (DESIS) Network, Brazil

Ms. Chisenga Muyoya

Co-founder, Asikana Network for Women in IT, Zambia; Co-director of the Gender-Just Digital Innovation in Africa (GeDIA) project

Speaker Bios



Irmgard Nübler

Irmgard Nübler is a Senior Economist in the Research Department of the International Labour Organisation in Geneva. She currently explores the role of dynamic capabilities in creating technological change and innovation for jobs, employment, and sustainable development. She is responsible to manage research projects, coordinate and draft technical reports, implement technical work and provide policy advice to ILO constituents. She collaborates closely with academic and international research networks in different functions, including as member on scientific

committees, advisory boards, research councils and peer review teams. Before joining the ILO, she held a position as Economics Professor at the Free University of Berlin; worked as researcher at the Massachusetts Institute of Technology in Boston, the Institute for Development Studies at the University of Nairobi and the International Institute for Labour Studies, Geneva. As a consultant, she collaborated with national and international development agencies.

Ms Nübler received her PhD in Economics at the Free University of Berlin. She has published widely in areas such as economic policy, globalization, education, training, human development, technology, industrial policy, jobs and employment. She is the co-editor of the book *Transforming economies: Making industrial policies work for growth, jobs and development* and, most recently, led and co-authored the ILO report “*Time to Act for SDG8: Integrating Decent work, sustained growth and environmental integrity*.”



Dorothea Kleine

Prof Dorothea Kleine is Co-Director of the Institute for Global Sustainable Development at the University of Sheffield, where she leads the Digital Technologies, Data and Innovation (DDI) group. She is a Professor of Human Geography. Her research investigates sustainable human development, global justice, and the role of digital technologies in making progress towards these aims. She has published widely on the potential and the ethical challenges of the use of ICTs in sustainable development in both the global South and North, focusing in particular on the perspective, agency

and creativity of the more marginalised. Prof Kleine is well-known for her theoretical work, proposing the choice framework to apply the capabilities approach to digital development, as laid out in ‘Technologies of Choice?’ (MIT Press). She argues for a people-centred approach to digital development.

Prof Kleine combines policy-level work with ongoing empirical research, including participatory action research. She has conducted research in Europe, Latin America and Africa. Recent projects have included Gender-Justice in Digital innovation in Africa, which centers women as changemakers in digital futures. Prof Kleine has conducted collaborative research with and/or advised ILO, UNCTAD, UNICEF, UNEP, EuropeAid, DFID, GIZ, IDRC, private sector organisations and NGOs. Before joining Sheffield University, she has worked at Royal Holloway, University of London, University of Cambridge, Bonn University as well as being a Faculty Associate at Harvard University’s Berkman Center for Internet and Society. Educated at the University of Munich (LMU and TUM) and the University of Oxford, she holds a PhD from the London School of Economics and Political Science.



Abbot Christian Temu OSB

Abbot Christian Temu, OSB, is the 6th Abbot of the Missionary Benedictine Abbey in Ndanda, Tanzania. Following philosophical and theological studies in Rome, he received the Priestly Ordination as Benedictine in 2004. As the General Secretary of the Benedictine Congregation St. Ottilien in Germany, he was responsible to coordinate activities and provide support to the international Missionary Benedictine community. In his current position, Abbot Christian is responsible for a monastic community of more than 90 monks, as well as for the health, education and spiritual services provided to the local population by the Ndanda Abbey. The Ndanda Abbey operates primary and secondary schools, a hospital, guesthouse, and a Vocational Training Centre which provides high quality training in fourteen different trades. In his previous positions in the Ndanda Abbey as mission coordinator and the Director of the Zakeo Spiritual Centre, Abbot Christian worked closely with the schools and the Vocational Training Centre, and was responsible for the organisation of retreats and seminars, promoting ecumenism and religious dialogue, while also addressing key challenges faced by the local societies.



Rita Afonso

Rita Afonso is a Brazilian professor at the Federal University of Rio de Janeiro – UFRJ – in the faculty of Business Administration. She is an associated researcher at Technology and Social Development Laboratory and at DESIS Lab – Design For Social Innovation and Sustainability, both in the Graduate Program in Production Engineering at the same university. As a researcher, she works within the projects TRANSIT – Transformative Social Innovation Theory; LASIN- Latin American Social Innovation Network (both co-financed by the European Commission); Food 2.0: Sustainable Food Futures – young people’s views from Rio and London (funded by the Newton Fund/FAPERJ) and Plataforma Digital Inteligente Y Big Data para El Turismo Rural Comunitário en La Región Puno (co-financed by CONCYTEC – Consejo Nacional de Ciencia y Tecnología e Innovación Tecnológica, Peru). Within the field of social innovation, she has the specific interest in the relationship between youth work in the favelas of Rio de Janeiro and technology. Her main research interests are: Social Innovation; Social innovation in favelas; New forms of production and consumption; Marketing and social innovation; Design for social innovation; Youth and social innovation.



Chisenga Muyoya

Chisenga is a proactive leader with a deep passion for social change. She is an experienced software programmer and a multidisciplinary ICT for Development researcher. She co-founded Asikana Network in Zambia, a social enterprise that increases the participation of women and girls in technology. Asikana Network holds free training sessions for young women in marketable skills like mobile app programming and web development skills as well as video production and editing using innovative and experimental teaching methods. In a country

where negative perceptions of women's capabilities are rife, Chisenga purposefully uses technology as a tool to challenge cultural gender norms.

Chisenga holds a BSc in Computing and a Masters in ICT for Development (University of London) which was awarded a distinction and an academic prize for research on gender and technology. She is currently a Commonwealth PhD Scholar researching feminist approaches to data science at the University of Sheffield. Named one of the top 30 young women leaders in Africa, Chisenga is a Mandela Washington Fellow, MILEAD Fellow, Global Shaper, Vital Voices Fellow, Chevening Scholar, TOYP Honouree and continuously demonstrates a strong commitment to service through her activism, volunteer work and research.

Moderator bio



Richard Alexander Roehrl

Richard A Roehrl is a physicist, economist and policy analyst. At present, he is a team leader and Senior Economic Affairs Officer at the United Nations Department of Economic and Social Affairs where he is responsible for science, technology and infrastructure issues. He works towards strengthening the science-policy interface which has led to the creation of a number of new UN entry points for science and technology stakeholders in support of the aspirations of

the SDGs. In particular, he co-initiated the UN Technology Facilitation Mechanism and the UN Global Sustainable Development Report, among others. Mr. Roehrl has advised governments, supported negotiations, and engaged with science communities on a wide range of issues. He has led research and assessments on sustainable development, frontier technologies, infrastructures, energy, climate, transport, and scenario analysis. He also leads analytical work on science & technology futures and the broader impacts of emerging science and technologies. Mr. Roehrl received his education from the universities of Munich, Oxford, London, and Erlangen-Nuremberg.