



Professor Youba SOKONA

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Summary of experience

Professor SOKONA, with over several decades of experience addressing energy, environment, and sustainable development in Africa, has been at the heart of numerous national and continental initiatives. He recently established the African Institute for Sustainable Energy and System Analysis (AISESA) in response to a persistent structural imbalance in how energy, climate, and development knowledge is produced and applied in Africa. He was a Vice-Chair of the Intergovernmental Panel on Climate Change Sixth Assessment cycle, after serving as Co-Chair of IPCC Working Group III following being a Lead Author since 1990. In 2007 he received a personal certificate from the Nobel Committee marking his 'significant contribution' to the work of the IPCC, which received a joint award of the Nobel Peace Prize that year. He was until end of October 2020 Senior Advisor for Sustainable Development at the South Centre. Prior to this, he has a proven track record of organizational leadership and management, for example as Executive Secretary for International Relations and Coordinator of Energy Program of the organization Environment and Development (ENDA), as Inaugural Coordinator of the African Climate Policy Centre (ACPC) and as Executive Secretary of the Sahara and the Sahel Observatory (OSS). He starts his carrier as Assistant Professor in 1976 and few years later Professor at Ecole Nationale d'Ingenieurs of Bamako, Mali.

Prof SOKONA's advice is highly sought after, and as such, he is affiliated with numerous boards and organisations, including as Honorary Professor at the University College London (UCL), Member of African Academy of Sciences, Member of The World Academy of Science, the International Council of Science, Special Advisor to the African Energy Leaders Group, Member of the Advisory Board of the Payne Institute for Public Policy, Colorado School of Mines, USA. In 2007 he received a personal certificate from the Nobel Committee marking his 'significant contribution' to the work of the IPCC, which received a joint award of the Nobel Peace Prize that year. In short, Prof SOKONA is a global figure, with deep technical knowledge, extensive policy experience and an unreserved personal commitment to African led development.

Professor SOKONA's scientific achievements, over a career spanning more than 4 decades, revolve around the relationship between energy, environment, and water systems with development outcomes in Africa, within the constraints of ecological and climate change. He has led numerous

initiatives and organizations with the mission to explore the food, water and energy interface in the context of sustainable development throughout his career. Professor SOKONA was active in this 'nexus' research and practice, long before the need to apply systems thinking entered the global research agenda. He has published widely in this field and has led first-rate research teams, laying out leading-edge research agenda, and making ground-breaking contributions in the fields of sustainability assessment, practice and policy. As one of leading African thinkers in the deployment of multiple disciplines towards sustainable solutions, Professor SOKONA has worked very closely with industry and non-governmental organizations in the spirit of co-production of knowledge and evidence-based for policy making. This demonstrates his deep conviction on the need to complement technical interventions with assessments of social preferences and cultural acceptability of proposed solutions. This may be a mainstream view today, but it took the hard work and imagination of some innovative individuals who were prepared to test new ways to 'think' and fuse knowledge from different disciplines. Professor SOKONA is one of these pioneers, trained as an engineer but determined to break away from the 'silo mentality' that often affects academics/researchers by choosing to work across disciplines. This philosophy has shaped his work on sustainability and systems approach, and has allowed his work to be wide-ranging in their sectoral reach and methodological depth. Whilst Professor SOKONA's contribution to the world of research and practice (with an African focus) is wide and deep, here are some specific areas worth zooming into:

- Professor SOKONA's scientific research began in the area of **hydrology and power sector**. While a doctoral student at the Ecole Nationale Supérieure des Mines de Paris and Université Pierre et Marie Curie, he worked on an innovative research modelling the behavior of the Manantali river (taking a multiple risk profile), and calculate the power generated and delivered over a long-term period, taking into account sedimentation, climate variability and dam depreciation over time. This work made a direct contribution to the planning and construction of the Manantali dam. This demonstrates, from an early period, Professor SOKONA was interested in doing research that feeds into development outcomes.
- Professor SOKONA was one of the early pioneers of **end-use based energy modelling as a valuable tool for energy planning**. He was instrumental in the early development, testing and deployment of the various energy planning tools. The key to his work in this research is the need for planning tools to be context relevant. While leading the energy programme at ENDA (Environment Development Action in the Third World) during the late 1980s and 1990s, he initiated a multi-country research and training programme in end-use based energy planning. Many who work in the energy field in Africa credit this programme as the pioneering programme, which compelled researchers and planners to go to the field in building energy knowledge from ground up. This work provided part of the research foundation for the development of the Long-range Energy Alternatives Planning System (LEAP), which is a software tool for energy policy analysis and climate change mitigation assessment developed at the Stockholm Environment Institute. LEAP has been adopted by thousands of organizations in more than 190 countries worldwide, and over 30 countries used LEAP to create energy and emissions scenarios that were the basis for their Intended Nationally Determined Contributions on Climate Change (INDCs): the foundation of the historic Paris climate agreement.
- Professor SOKONA was one of the pioneers of the research gap assessment around the issue of **desertification and climate change**. While serving as Executive Secretary of the Sahara and the Sahel Observatory between 2004 and 2010, he led several sub-regional studies that provided evidence on the links between desertification, biodiversity and climate change. The outcome from these studies provided policy recommendations for several African (North and Sahelian) countries in mainstreaming climate adaptation for line ministries and cross-sectoral planning.
- During his time as the founding coordinator of the African Climate Policy Centre (UNECA), Professor SOKONA led a number of **climate mitigation, climate finance and climate data and**

climate services studies. Most of these have been published as working paper series and journal articles. In all these papers, Professor SOKONA introduced the working philosophy of Development First to mean that development as the strategic priority for countries in Africa, but to use climate finance and technology transfer as a means to achieving development and livelihood ends. The aim being that for African entities, development should be seen as the main motivation for action and climate as a co-benefit.

- Professor SOKONA has been very active throughout the history of the **Intergovernmental Panel on Climate Change (IPCC)**, taking on progressively prominent roles as lead author in the first four assessment reports, then Co-Chair of Working Group 3 on mitigation during the 5th Assessment period (2008-2014). As recognition for his long and distinguished service to bringing climate change challenges (and opportunities) to the global attention, Professor SOKONA was elected Vice-Chair of the Intergovernmental Panel on Climate Change (IPCC) in October 2015. He contributed to the reports of the IPCC, which was awarded the Nobel Peace Prize of 2007.

Professor SOKONA has published more than 100 papers over his career, with a total SCI citation over 50000, and an H-index of 51.

Professional affiliations

- 2025 – Present: AISESA Program Lead at Akademyia2063
- 2022 – 2026: Chair of the Advisory Committee of the United Nations University Institute for Environment and Human Security
- 2021 – Present: Member of Joint Ethical Advisory Committee of the four French institutions: INRAE, CIRAD, IFREMER, IRD
- 2018 – Present: Member of the Advisory Board of the Payne Institute for Public Policy, Colorado School of Mines, USA
- 2017 – 2022: Member of Science Advisory Committee of IIASA
- 2016 – Present: Honorary Professor, UCL's Dep. of Sci. Tech. Eng. and Public Policy (STeAPP)
- 2016 – April 2017: Head of interim Independent Delivery Unit of the Africa Renewable Energy Initiative
- Oct 2015 – July 2023: Vice-Chair of the IPCC for the Sixth Assessment Report cycle
- 2014 – Present: Special Advisor to the African Energy Leaderships Group
- 2012 – 2018: Member of the Science Committee, Future Earth
- 2011 – 2018: Member of the Board, Institute of Development Studies, University of Sussex
- 2008 – 2015: Co-Chair of the IPCC Working Group III for the Fifth Assessment Report
- 1990 – 2008: IPCC lead author
- 2007 – 2009: Special Senior Advisor, Club de Madrid and United Nations Foundation Task Force on Global Leadership for Climate Action (GLCA)
- 2007 – 2009: Member of the Swedish Commission on Climate Change and Development
- 1998 – 2004: Member of the Joint UNDP/World Bank Energy Sector Management Assistance Programme (ESMAP) Technical Advisory Group (TAG)
- Special Advisor to the African Energy Leaders Group, Member of the Earth League among other affiliations
- Member of the African Academy of Sciences
- Member of the World Academy of Sciences
- Fellow of the International Science Council
- Associate member of the National Academy of Sciences and Technology of Senegal
- Honorary member of the Academy of Sciences of Mali

Employment history

- May 2013 – October 2020: Special/Senior Advisor on Sustainable Development at the South Centre
- August 2016 – April 2017: Head of interim Independent Delivery Unit of the “Africa Renewable Energy Initiative”
- Nov 2010 – May 2012: Coordinator of the African Climate Policy Centre (ACPC), United Nations Economic Commission for Africa (UNECA)
- Jun 2004 – Jun 2010: Executive Secretary of the Sahara and the Sahel Observatory (OSS)
- 1999 – 2004 : Executive Secretary for International Relations at Environnement et Développement du Tiers Monde (ENDA-TM)
- 1987 – 2004: Coordinator of the ENDA-TM Energy Programme
- 1983 – 1987: Research Co-coordinator at ENDA-TM Energy Programme
- 1981 – 1983: Professor of hydrology, statistics and hydraulic at the Ecole Nationale d'Ingénieurs de Bamako, Mali
- 1978 – 1981: Research Assistant and Research fellow at the Centre Informatique Géologique de l'Ecole Nationale Supérieure des Mines de Paris
- 1976 – 1977: Assistant Professor at the Ecole Nationale d'Ingenieurs de Bamako

Education

- 1981 Doctorat d'Ingénieur, Sciences de la Terre, Ecole Nationale Supérieure des Mines de Paris and Université Pierre et Marie Curie, Paris VI, France
- 1978 Diplôme d'Etudes Approfondies (DEA) option Sciences de la Terre, Université Pierre et Marie Curie, Paris VI, France
- 1976 Civil and Mining Engineer, Ecole Nationale d'Ingénieurs of Bamako, Mali

Languages

- French: Excellent spoken, written and read
- English: Fluent spoken, written and read

Some publications

1. Pachauri S, Brutschin E, Gidden MJ, Hasegawa T, Hejazi M, Jiang K, et al. (2026) Advancing representations of equity and justice in climate mitigation futures. PLOS Clim 5(2): e0000763. <https://doi.org/10.1371/journal.pclm.0000763>
2. Ospina, D., et al. (2026). Ten new insights in climate science 2025. Global Sustainability, 9, e6, 1–37. <https://doi.org/10.1017/sus.2025.10043>
3. Foster, V., Trotter, P.A., Werner, S. et al. 2024. Development transitions for fossil fuel-producing low and lower–middle income countries in a carbon-constrained world. Nat Energy (2024). <https://doi.org/10.1038/s41560-023-01440-3>
4. Ambuj D. Sagar; Ajay Mathur; Fatih Birol; Yacob Mulugetta; Damilola Ogunbiyi; Youba Sokona; Achim Steiner, 2023. Mission Energy Access for a just and sustainable future for all. Nature Energy (2023). doi: 10.1038/s41560-023-01380-y
5. Sokona et al. 2023. Just transition: A climate, energy, and development vision for Africa. Power Shift Africa (2023)
6. IPCC, 2023: Summary for Policymakers. In: Climate Change 2023: Synthesis Report. Contribution of Working Groups I, II and III to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change

7. Kaudia Alice et al. 2022. The launch of the first-ever Integrated Assessment of Air Pollution and Climate Change for Sustainable Development in Africa. *Clean Air Journal*, 2022-12-22. doi: 10.17159/caj/2022/32/2.15320
8. Carole Brunet et al. 2022. Will solar energy escape the natural “resource curse”? *Energy Strategy Reviews* 44 (2022) 101010. <https://doi.org/10.1016/j.esr.2022.101010>
9. Pachauri, S. et al. 2022. Fairness consideration in global mitigation investments. *Science* 10.1126/science.adf0067 (2022)
10. Palutikof, J. et al. 2022. Enhancing the review process in global environmental assessments: The case of the IPCC. *Environmental Science and Policy* 139 (2023) 118–129. <https://doi.org/10.1016/j.envsci.2022.10.012>
11. Mulugetta, Y., Sokona, Y., Trotter, P.A. et al. 2022. Africa needs context-relevant evidence to shape its clean energy future. *Nat Energy* (2022). <https://doi.org/10.1038/s41560-022-01152-0>
12. Diemuodeke, O. et al. 2022. Techno-economic analysis of solar e-cooking systems for rural communities in Nigeria. *Advance in Science and Technology*
13. Anderson, K. et al., 2021. Three decades of climate mitigation: why haven't we bent the global emissions curve? *Annual Review of Environment and Resources*, Volume 46. In press. doi: 10.1146/annurev-environ-012220-011104
14. Sokona, Y., 2020. Building Capacity for “Energy for Development in Africa”: Four Decades and Counting. *Climate Policy*. Doi.org/10.1080/14693062.2020.1870915
15. Griggs, D. et al., 2020. Use of weather and climate information essential for SDG implementation. *Nat Rev Earth Environ*. <https://doi.org/10.1038/s43017-020-00126-8>
16. Smith, M. et al., 2018. Advancing sustainability science for the SDGs. *Sustainability Science*. <https://doi.org/10.1007/s11625-018-0645-3>
17. IPCC, 2019: Summary for Policymakers. In: *Climate Change and Land: an IPCC special report on climate change, desertification, land degradation, sustainable land management, food security, and greenhouse gas fluxes in terrestrial ecosystems* [P.R. Shukla, J. Skea, E. Calvo Buendia, V. Masson-Delmotte, H.- O. Pörtner, D. C. Roberts, P. Zhai, R. Slade, S. Connors, R. van Diemen, M. Ferrat, E. Haughey, S. Luz, S. Neogi, M. Pathak, J. Petzold, J. Portugal Pereira, P. Vyas, E. Huntley, K. Kissick, M. Belkacemi, J. Malley, (eds.)]. <https://doi.org/10.1017/9781009157988.001>
18. Stern, N. et al., 2017. High-Level Commission on Carbon Prices. 2017. Report of the High-Level Commission on Carbon Prices. Washington, DC: World Bank. License: Creative Commons Attribution CC BY 3.0 IGO
19. IPCC, 2014. *Climate Change 2014: Mitigation of Climate Change. Contribution of Working Group III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change*. Cambridge University Press, Cambridge and New York
20. IPCC, 2014. *Climate Change 2014: Synthesis Report of the Intergovernmental Panel on Climate Change*. Cambridge University Press, Cambridge and New York
21. Rockstrom, J. et al., 2014. Climate change: The necessary, the possible and the desirable Earth League climate statement on the implications for climate policy from 5th IPCC Assessment. *Earth's Future*, 2, 606-611
22. Sokona, Y., 2014. Climat : Et si l'Europe se souciait des pays du Sud ? In *Revue Projet* Numéro 343 – Décembre 2014, pages 81 – 87
23. Brida, A-B., Owiyo, T., Sokona, Y. et al., 2013. Loss and damage from the double blow of flood and drought in Mozambique. *Int. J. Global Warming*, Vol. 5, No 4
24. Srivastava and Sokona, Y. (editors), 2012. Universal access to energy: Getting the framework right. *Energy Policy*, volume 47, Supplement 1, (2012)
25. Sokona, Y., Y. Mulugetta, H. Gujba, 2012. Widening access in Africa: Towards energy transition. *Energy Policy*, volume 47, Supplement 1, (2012) pages 3-10

26. Agbemabiese, L., Sokona, Y.;; J. Nkomo, 2012. Enabling innovations in energy access: An African perspective. *Energy Policy*, volume 47, Supplement 1, (2012) pages 38-47
27. Sokona, Y.; H. Gujba; S. Thorne; Y. Mulugetta; K. Rai, 2012. Financing low carbon energy access in Africa. *Energy Policy*, volume 47, Supplement 1, (2012), pages 71-78
28. Sokona, Y. and Davidson, O., 2001. Energy and Sustainable Development: Key Issues for Africa. In *Proceedings of the "African High-level Regional Meeting on Energy and Sustainable Development" for the ninth session of the Commission on Sustainable Development*. UNEP, pp 1-19
29. Sokona, Y. and Fatma, D., 2001. Climate Change Impact: Can Africa Cope with the Challenges? In *Climate Policy vol.1 Issue 1* pp 117-123, Elsevier
30. Sokona, Y. 2000. Prospects for developing renewable energy in Africa. *Industry and Environment*, 2000
31. Sokona, Y., 2000. Widening Access to Rural Energy Services in Africa: What Prospects from the Multifunctional Platform Case in Mali? In *World Markets Series, Business Briefing: Global power Engineering & Technology*, pp 76-78