United Nations Educational, Scientific and Cultural Organisation (UNESCO)

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United Nations Educational, Scientific and Cultural Organization (UNSCO), founded in 1945, is an agency of the United Nations (UN) which specializes in education, natural sciences, social and human sciences, culture and communications and information. With 195 members, 9 associate members and 50 field offices, working with over 300 international NGOs, UNESCO carries out activities in all of these areas, with the post-2015 development agenda underpinning their overall agenda.

As the only UN agency with a mandate to address all aspects of education it proffers that education is at the heart of development, with a belief that education is fundamental to human, social and economic development. It co-ordinates 'Education for All' movement, a global commitment to provide quality basic education for all children, youth and adults, monitoring trends in education and where possible make attempts to raise the profile of education on the global development agenda. For the natural sciences, UNESCO acts as an advocate for science as it focuses on encouraging international cooperation in science as well as promoting dialogue between scientists and policy makers. In doing so it acts as a platform for dissemination of ideas in science, and encourages efforts on cross cutting themes including disaster risk reduction, biodiversity, engineering, science education, climate change and sustainable development. Within the social and human sciences UNESCO plays a large role in promoting heritage as a source of identity and cohesion for communities. It actively contributes by developing cultural conventions that provide mechanisms for international cooperation. These international agreements are designs to safeguard natural and cultural heritage across the globe, for example through designation as UNESCO World Heritage sites. The development of communication and sharing information is embedded in all their activities.

UNESCO has five key objectives: to attain quality education for all and lifelong learning; mobilize science knowledge and policy for sustainable development; address emerging social and ethical challenges; foster cultural diversity, intercultural dialogue and culture of peace; and build inclusive knowledge societies through information and communication. Like other UN agencies UNESCO has been involved in debates about the data revolution for development and the role that big data can play.

The data revolution for sustainable development is an international initiative designed to improve the quality of data and information that is generated and made available. It recognises that societies need to take advantage of new technologies, crowd sourced data and improve digital connectivity in order to empower citizens with information that can contribute towards progress towards wider development goals. While there are many data sets available about the state of global education, it is argued that better data could be generated, even around basic measures such as the number of schools. In fact rather than focus on 'big data' which has captured the attention of many leaders and policy makers, instead more efforts should focus on 'little data' i.e. focus on data that is both useful and relevant to particular communities. Now discussions are shifting to identify which indicators and data should be prioritised.

UNESCO Institute for Statistics is the organizations own statistic arm, however much of the data collection and analysis that takes place here relies on much more conventional management and information systems which in turn relies on national statistical agencies which in many developing countries are often unreliable, or heavily focused on administrative data. This means that the data used by UNESCO is often out of date, or not detailed enough. While digital technologies have become widely used in many societies, more potential sources of data are generated. For example, mobile phones are now used as banking devices as well as for standard communications. Official statistics organizations are still behind in many countries and international organizations in that they have not developed ways to adapt and make use of this data alongside the standard administrative data already collected.

There are a number of innovative initiatives to make better use of survey data and mobile phone based applications to collect data more efficiently and prove more timely feedback to schools, communities and ministries on target areas such as enrolment, attendance and learning achievement. UNESCO could make a significant contribution to a data revolution in education by investing in resources in collecting these innovations and making them more widely available to countries.

Access to big data for development, as with all big data sources, presents a number of ethical considerations based around the ownership of data and privacy. This is an area the UN recognises that policy makers will need to address to ensure that data will be used safely to

address their objectives while still protecting the rights of people whom the data is about, or generated from. Furthermore, there are a number of critiques of big data which make more widespread use of big data for UNESCO problematic: first that claims that big data are objective and accurate representations are misleading; not all data produced can be used comparable; there are important ethical considerations necessary about the use of big data; limited access to big data is exacerbating existing digital divides.

The Scientific Advisory Board of the Secretary-General of the United Nations which is hosted by UNESCO provided comments on the report on data revolution in sustainable development. It highlighted concerns over equity and access to data noting that the data revolution should lead to equity in access and use of data for all. Furthermore, it suggested that a number of global priorities should be included in any agenda related to the data revolutions: first that countries should seek to avoid contributing to a data divide between the rich and poor countries, secondly that there should be some form of harmonization and standardization of data platform to increase accessibility internationally; there should be national and regional capacity building efforts; and there should be a series of training institutes and training programmes in order to develop skills and innovation in areas related to data generation and analysis. A key point made here is that the quality and integrity of the data generated needs to be addressed, as it is recognised that big data often plays an important role in political and economic decision making. Therefore a series of standards and methods for analysis and evaluation of data quality should be developed.

In the journal *Nature*, Hubert Gijzen, UNESCO Regional Science Bureau for Asia and the Pacific calls for more big data to help secure a sustainable future. He argues that more data should be collected which can be used to model different scenarios for sustainable societies concerning a range of issues from energy consumption, improve water conditions and poverty eradication. Big data, according to Gijzen has the potential if co-ordinated globally between countries, regions and relevant institution to have a big impact on the way societies address some of these global challenges. The United Nations has begun to take actions to do this through the creation of the Global Pulse imitative bringing together experts from governments, academic and the private sector to consider new ways to use big data to support development agendas. Global Pulse, a network of innovation labs which conduct research on Big Data for Development via collaborations between governments, academic and the private sector. The initiative is designed especially to make use of the digital data flood that has

developed in order to address the development agendas that are at the heart of UNESCO, and the UN more broadly.

The UN Secretary-General's Independent Expert Advisory Group on the Data Revolution for Sustainable Development: produced the report 'A World That Counts' UN Secretary Generals Export Advisory Group on Data revolutions report in November 2014 suggested a number of key principles which should be sought regards to the use of data: data quality and integrity to ensure clear standards for use of data; data disaggregation to provide a basis for comparison; data timeliness to encourage a flow of high quality data for used in evidence based policy making; data transparency to encourage systems which allow data to make freely available; data usability to ensure data can be made user-friendly; data protection and privacy: to establish international and national policies and legal frameworks for regulating data generation and use; data governance and independence; data resources and capacity to ensure all countries have effective national statistical agencies; and finally data rights to ensure human rights remains a core part of any legal or regulatory mechanisms that are developed with respect to big data. These principles are likely to influence UNESCOs engagement with big data in the future.

UNESCO, and the UN more broadly acknowledge that technology has been, and will continue to be, a driver of the data revolution and a wider variety of data sources. For big data that is derived from this technology to have an impact these data sources need to be leveraged in order to develop a greater understanding of the issues related to the development agenda.

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See also: History; International Development; United Nations; United National Global Pulse; World Bank

Further Readings

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