On Article 15 of the International Covenant on Economic, Social and Cultural Rights: on the right to enjoy the benefits of scientific progress and its applications and other provisions of article 15 on the relationship between science and economic, social and cultural rights,

the shared view in the Netherlands is that, the Netherlands

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UNDERLINES the **Open Science**[[1]](#footnote-1), a worldwide phenomenon, is essential for this right for reasons of both principle and practicality.

The MOTIVATION is that:

* As a matter of *principle*, it is important that publicly funded research optimally benefits society. Results from this type of research must be made freely accessible, under the motto `as open as possible, as closed as necessary’.
* From a *practical* point of view, open science offers massive benefits to citizens, the business community, scientists, and society as a whole.

Enjoyment of the benefits of scientific progress and its applications are key to social innovation in the economic, social and cultural domain, when it embraces the labour markets. When referring to social innovation, one could think of ways of adapting and opening up company culture, work processes and research and development outputs. It will motivate employees when provided with the opportunity to keep up their labour market skills to better suits the changing demands. Or to engage in an entrepreneurial careers.[[2]](#footnote-2)

* *Scientists* benefit from open science because they gain quicker access to the research results of other scientists in a wide range of different disciplines and countries. By building upon other scientists' research results, breakthroughs can be made quicker and the impact of research can be boosted. Making data sets available on a large scale greatly facilitates replication of research and checking its validity. This can help to further develop promising research results and to quickly phase out lines of research found to be invalid. Open research data enables the results of scientific research to be closely monitored and critically assessed, promoting the scientific integrity of researchers. Open science also brings about completely new ways to conduct science (e.g. citizen science), and promotes the use of new analysis techniques like text and data mining (TDM).
* *Businesses* also greatly benefit from open science, as they can gain earlier access to the latest scientific and technological developments relevant to their business. This boosts their ability to develop innovative products and processes. In this way, open science boosts innovative capabilities, contributes to open innovation, helps reinforce our competitive position and stimulates economic growth.
* Finally, *society* as a whole optimally benefits from open access to scientific research, as knowledge is made widely available and in a much shorter time. *Government bodies* and *civil society organizations* can apply the latest scientific insights in tackling all of the issues we face as society. Access to science means *teachers* can include the most up-to-date developments in their teaching and *doctors* can quickly and efficiently implement new diagnostics and therapies into their everyday practice. In this regard, it is important not only that research results are made available to everyone, but also that they are understandable to a broad audience. This can require an extra effort to make the results optimally accessible.

The benefits are sizable. Just to name a few:

* Open science contributes to the 'democratization of information' and empowers democracy worldwide.
* Open science also enables initiatives in and with developing countries.
* Open science (for the Netherlands a national policy priority), the Netherlands wants research results public that are financed with public money to become available to everyone, including people in other countries. This contributes to global knowledge circulation and thus innovation and progress.
* Through open science, citizens, enterprises, scientists and other interested parties worldwide can thus (free of charge or for very few) gain access to high-quality scientific research results (publications, data) to take initiatives in the economic, social and cultural domains.

The priorities the Netherlands sees to achieve open science and consequently the chance to enjoy the benefits of scientific progress and its applications and other provisions of article 15 on the relationship between science and economic, social and cultural rights:

* Full **open access** to scientific publications;
* Make **research data** optimally suited for reuse, in accordance with the FAIR-principles[[3]](#footnote-3). To set clear and agreed technical and policy-related preconditions to facilitate reuse of research data, including provision of the necessary expertise and support;
* **Recognition and rewards**: To examine how open science can be an element of the evaluation and reward system for researchers, research groups and research proposals; and
* **To promote and support**: To establish a ‘clearing house’ for all information regarding all available research support.

Background information:

* For the Netherlands it is a priority for Open Science, and Open Access, to become the norm in scientific research. We have a National Plan Open Science, of which Open Access and Open Data are two (of the four) pillars. We are also taking a leading role within the EU on Open Science. For instance, under the Netherlands’ EU Presidency of 2016 the EU Member States agreed to go for 100% Open Access in 2020. In the field of Open Data, the FAIR Data Principles (Findable, Accessible, Interoperable, Reusable) are leading. We are proud that these principles were drafted at a workshop in the Netherlands in 2015, and have since received worldwide recognition, by the EU, G7 and G20 among others.
* Open science has been firmly on the agenda in the Netherlands in the last couple of years. It has been a priority for the previous and current government. In the **Coalition Agreement 2017-2021** the government states that `Open Science and Open Access will become the norm in academic research’.[[4]](#footnote-4) The motto here is: as open as possible, ad closed as necessary. The switch to open science requires ambition, investment in people and resources, and being alert to any risks. On open science and open access the government of the Netherlands works closely together with national and international stakeholders.
* On 19 January 2017, the State Secretary for Education, Culture and Science (OCW) sent a letter to the Dutch House of Representatives on the subject of open science, asking a wide-ranging coalition of the parties involved to jointly draw up a **National Plan Open Science (NPOS)[[5]](#footnote-5)**. In order to show their commitment to the National Plan Open Science, the parties involved signed the Open Science Declaration on 9 February 2017.
* The NPOS is an important step for the different stakeholders, engaging with scientific research, to create an infrastructure for making science accessible and transparent.
* The Plan lists the ambitions and provides details of the parties intending to take action, as well as the timeframes within which they believe they can realize their objectives. The key ambitions are:
* Full **open access** to publications in 2020: Continue the Dutch approach for all Dutch research organizations and research areas whilst recognizing their differences and similarities;
* To make **research data** optimally suited for reuse, in accordance with the FAIR-principles[[6]](#footnote-6). To set clear and agreed technical and policy-related preconditions to facilitate reuse of research data, including provision of the necessary expertise and support;
* **Recognition and rewards**: To examine together how open science can be an element of the evaluation and reward system for researchers, research groups and research proposals; and
* **To promote and support**: To establish a ‘clearing house’ for all information regarding all available research support.
* With the ambitions set out in this plan the Netherlands is responding to the Amsterdam Call for Action on Open Science published in 2016, the conclusions of the Competitiveness Council in May 2016, and to the in the letter to Parliament concerning open science confirmed question by the State Secretary for Education, Culture and Science (January 2017). Open access to publications and optimal reuse of research data are becoming the standard for all knowledge institutes and research areas. The motto here is as open as possible, as closed as necessary.

Appenix: The NL National Plan Open Science (NPOS)



1. Definition of open science as used by the European Commission:

   “Open Science represents a new approach to the scientific process based on cooperative work and new ways of diffusing knowledge by using digital technologies and new collaborative tools. The idea captures a systemic change to the way science and research have been carried out for the last fifty years: shifting from the standard practices of publishing results in scientific publications towards sharing and using all available knowledge at an earlier stage in the research process”. source: `Open innovation , Open Science, Open to the World – a vision for Europe’, European Commission, 2016. [↑](#footnote-ref-1)
2. Moreover, the Netherlands Scientific Council for Government Policy (WRR) has advised to embrace co-creation. Cooperation with employees benefits production and creative processes in a way that is rewarding for the developments of the employees, their organisations and their society. [↑](#footnote-ref-2)
3. FAIR = findable, accessible, interoperable and re-usable. The concept originates from Netherlands (2015) [↑](#footnote-ref-3)
4. Coalition Agreement 2017-2021 `Confidence in the Future’ (page 16) <https://www.kabinetsformatie2017.nl/documenten/verslagen/2017/10/10/coalition-agreement-confidence-in-the-future> [↑](#footnote-ref-4)
5. National Plan Open Science (English version): <https://www.openscience.nl/en/national-platform-open-science/national-plan-open-science/index> [↑](#footnote-ref-5)
6. FAIR = findable, accessible, interoperable and re-usable. The concept originates from the Netherlands (2015) [↑](#footnote-ref-6)