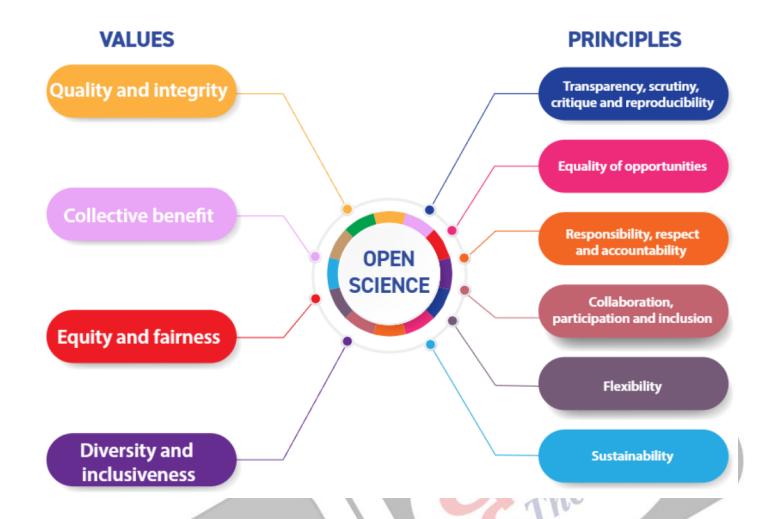


Open Science

Source: TH

Open science is a set of principles and practices that aim to make **scientific research accessible to everyone**, ensuring that the production of knowledge is **inclusive**, **equitable**, **and sustainable**.

- It encompasses principles such as free access to publications, availability of datasets, opensource software utilisation, and citizen science engagement.
- The <u>UNESCO</u> Recommendation on Open Science defines and outlines shared values and principles for open science.
- Benefits of Open Science:
 - Provides free access to knowledge, broadening research reach and enhancing recognition.
 - Fosters collaboration across institutions and countries, enabling joint projects.
 - Promotes transparency and reproducibility, improving research quality while maximising the impact of funding through FAIR (Findable, Accessible, Interoperable, and Reusable) principles.
- Ethical Considerations Related to Open Science: Open-access publishing demands transparency from authors, rigorous peer-review from publishers, and adherence to ethical standards to ensure research quality.
- Impact of AI on Open Science: Al boosts data mining and analysis, fostering collaboration and data sharing in open science.
 - However, it introduces challenges like bias and reliability issues.
- Challenges to Open Science: Technological barriers, institutional resistance, economic
 constraints, and legal issues, such as <u>intellectual property</u> and data privacy concerns, hinder the
 widespread adoption of open science.



Read More: <u>Draft National Science</u>, <u>Technology and Innovation Policy</u>

PDF Refernece URL: https://www.drishtiias.com/printpdf/open-science