

MAKING A CASE FOR CURIOSITY-DRIVEN RESEARCH

As long as scientists are free to pursue the truth wherever it may lead, there will be a flow of new scientific knowledge to those who can apply it to practical problems.¹

Vannevar Bush, 1945

1. INTRODUCTION

This discussion paper², *Making a Case for Curiosity-Driven Research*, provides the basis for a discussion during the GRC annual cycle of meetings leading to the GRC 15th Annual Meeting 2027 in Cape Town, South Africa, co-hosted by the German Research Foundation (DFG) and the National Research Foundation of South Africa (NRF). It is intended to support reflection among public research funders on the future of curiosity-driven research (CDR) in impact-focused, resource-constrained and otherwise challenging policy landscapes. The paper has been co-developed by the NRF and DFG with the support of a Scientific Advisory Committee³ convened to provide intellectual guidance on the theme.

Within the framework of this global discussion, CDR is understood as research driven by the curiosity of researchers who select for themselves which research questions and methods of investigation they wish to pursue and to propose for funding.⁴ The paper recognises that CDR is known by different terms across systems and that it is often associated with basic, fundamental, frontier, early-stage, discovery, blue-skies or exploratory open-ended research. However, it does not treat these terms as identical. Instead, the paper uses the term CDR to focus attention on the motivation, freedom, openness and conditions of inquiry, while recognising that CDR may appear across different research types and funding arrangements.

¹ Bush, V. (1945) United States. Office of Scientific Research and Development, “Science, the endless frontier: A report to the President”, p.7.

² The Global Research Council (GRC) is a voluntary, participant-based organisation that recognises the different missions, mandates and remits of its participant organisations within their respective national research eco-systems. This discussion paper is intended to stimulate reflection and constructive dialogue on issues relevant to the global research community, rather than an agreed position of the GRC. The views and perspectives presented are those of the authors and should not be interpreted as representing a consensus position of the GRC, its governing bodies or participating organisations. Any errors or omissions remain the responsibility of the authors.

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⁴ Cf. G. Gigerenzer, C. Allen, S. Gaillard, R.L. Goldstone, J. Haaf, W.R. Holmes, Y. Kashima, B. Motz, S. Musslick, & A. Stefan, Alternative models of funding curiosity-driven research, Proc. Natl. Acad. Sci. U.S.A. 122 (5) e2401237121, <https://doi.org/10.1073/pnas.2401237121> (2025).

The paper is an invitation for the GRC to discuss how CDR can be understood, supported and communicated within diverse funding systems. It does not position CDR as disconnected from impact, nor as being in opposition to applied, use-inspired or mission-driven research. Rather, it considers CDR as part of a broader, interconnected and dynamic research and innovation spectrum, where the generation of new knowledge may contribute to future social, economic, scientific and technological value in ways that cannot always be predicted in advance.

The value of CDR to research ecosystems and more broadly to society is well established and understood through numerous physical and social innovations that depend on the knowledge generated through CDR-type activities. It helps produce knowledge of the world and everything in it, adds to the portfolio of knowledge to address future challenges, and contributes to building and strengthening innovation and discovery. CDR is therefore a critical ingredient in creating and maintaining strong and sustainable research ecosystems that are simultaneously effective in their national contexts and in the global research system. Without CDR, the long-term sustainability of research ecosystems would be in danger.⁵

At the same time, public funders are increasingly required to demonstrate the immediate use and impact of the research they support. Some research systems are under pressure to move away from funding CDR because it is seen to be wasteful.⁶ In parts of the world, the alignment of research funding priorities with political priorities appears to be on the increase.⁷ At the same time, the commercialisation of research has shifted the balance between government and industry with a decreasing share of basic research funded by governments that is accessible to the wider public.⁸ This may have important consequences for the future of the generation of knowledge and the sustainability of research ecosystems. There are growing concerns that this might be connected to a decline in disruptive research as there is too much pressure for short-term, practically

⁵ See e.g. Farris SM (2020) The rise to dominance of genetic model organisms and the decline of curiosity-driven organismal research. PLoS ONE 15(12): e0243088. <https://doi.org/10.1371/journal.pone.0243088>.

⁶ Nature Editorial, “Don’t deprioritize curiosity-driven research.” Nature 650, 19 February 2026. In an article in the *American Scientist*, David Samuel Shiffman writes ‘Long-standing myths about ‘silly science’ have contributed to the reckless slashing of government-supported research.’

⁷ Schneider L, Wech D, Wrede M. Political alignment and project funding. Int Tax Public Financ. 2022;29(6):1561-1589. doi: 10.1007/s10797-022-09758-6. Epub 2022 Aug 23. PMID: 36032632; PMCID: PMC9398048.

⁸ Association of American Universities. Report Shows that the US still Leads the World on R&D – For Now. <https://www.aau.edu/newsroom/leading-research-universities-report/report-shows-us-still-leads-world-rd-now#:~:text=In%20addition%20to%20international%20comparisons,businesses%2C%20and%20nonprofit%20research%20organizations>.

impactful research outcomes.⁹ This is even more problematic, as the half-life of knowledge has declined in some areas of study.¹⁰ Without sustained investment in CDR, the capacity to explore the world could gradually diminish and, over time, so too could societies' capacity for innovation. This is even more relevant as the increasing use of Artificial Intelligence (AI) may further amplify these effects. Despite its many benefits, the growing use of AI also carries the risk of narrowing the scope of innovation; an insufficiently reflective use of AI may lead to convergence effects and an unintended homogenisation of ideas.

These concerns point to a central responsibility for public research funders: to ensure that CDR is an important part of the funding mix – not as a separate or exceptional activity, but as part of a balanced and resilient research funding portfolio. This is particularly important where research systems are expected to respond to immediate societal needs – and where researchers themselves may internalise this pressure and orient their research accordingly – while also maintaining the capacity to generate new knowledge over the long term.

This theme supplements and supports other themes addressed at previous GRC Annual Meetings:¹¹ Of most relevance are the previous themes of addressing the increased expectations of societal and economic impact which raise questions about how to balance immediate utility with scientific curiosity; mission-oriented research, which can benefit from a strong foundation of curiosity-driven research; and the dynamic interplay between fundamental research and innovation, in which curiosity-driven discoveries can provide the basis for unforeseen applications.

The previous themes of funding of scientific breakthroughs, which often depend on exploratory research without predetermined outcomes, the development of science and technology workforce, for which intellectual autonomy and curiosity are important drivers, and promoting the equality and status of women in research, which contributes to broadening the range of perspectives, questions and ideas that can drive the research endeavour, are also very relevant. Moreover, scientific review, which shapes the space available for novel and unconventional research questions and the role of public

⁹ Park, M., Leahey, E. & Funk, R.J. Papers and patents are becoming less disruptive over time. *Nature* 613, 138–144 (2023). <https://doi.org/10.1038/s41586-022-05543-x>.

¹⁰ Chye, T.E. (2022). <https://www.science.nus.edu.sg/blog/2022/11/the-half-life-of-knowledge/>. “The half-life of knowledge, coined by Fritz Machlup in 1962, refers to the amount of time elapsed before half of the knowledge in a particular field is superseded or becomes obsolete. Given the speed with which knowledge develops and is shared, it is perhaps not surprising that this value is ever decreasing in many fields.”

¹¹ GRC Statements of Principles. See <https://globalresearchcouncil.org/grc-publications/>.

engagement to strengthen the understanding of the value of research beyond immediate applications are essential elements in creating an enabling environment.

The paper takes as a starting point that there are vast differences in research ecosystems across the world, with some systems having fewer opportunities to support CDR at scale within the mix of their research activities.¹² While in terms of research spending and research output, the concept of the Global South is more complex now than in the past,¹³ resource constraints, competing national demands, differences in institutional capacity, or the historical development of research funding portfolios continue to shape the performance of research ecosystems. While it might seem natural at first sight for smaller, more restricted countries to focus on applied research, given existing resource constraints, this raises important questions about whose knowledge, experience and contexts are able to shape the global research enterprise.

In parts of the Global South, colonial legacies continue to shape knowledge production, including through the marginalisation of local and Indigenous knowledges, while extractive and inequitable research relations and structural constraints continue to limit locally led science.¹⁴ In the postcolonial context, continued underinvestment has shaped research ecosystems in ways that reinforce their dependence on better-funded systems.¹⁵ This matters because it would be for the benefit of global research if the inventiveness and the socioeconomic experience of every society were brought to bear on the performance of CDR, in order to enhance the range of perspectives in the performance of CDR and open the way for more diverse epistemic approaches and richer outcomes. For this reason, the discussion on CDR is also a discussion about participation, knowledge generation, epistemic diversity, and the conditions under which all research systems can contribute more fully to global science – especially as many of the most pressing research questions are becoming increasingly global in nature.

¹² UNESCO. <https://www.unesco.org/en/basic-sciences-engineering/capacity>.

¹³ Mazzega, P., Rugmini Devi, M., Ana Flavia Barros-Platiau. Where is the “Global South” located in scientific research. *Earth System Governance* 25 (2025) 100269.

¹⁴ Haelewaters, D., Hofmann, T. A., & Romero-Olivares, A. L. (2021). Ten simple rules for Global North researchers to stop perpetuating helicopter research in the Global South. *PLOS Computational Biology*, 17(8), e1009277. <https://doi.org/10.1371/journal.pcbi.1009277>. <https://journals.plos.org/ploscompbiol/article?id=10.1371/journal.pcbi.1009277>; Abouzeid, M., Muthanna, A., Nuwayhid, I., El-Jardali, F., Connors, P., Habib, R. R., Akbarzadeh, S., & Jabbour, S. (2022). Barriers to sustainable health research leadership in the Global South: Time for a Grand Bargain on localization of research leadership? *Health Research Policy and Systems*, 20, 136. <https://link.springer.com/article/10.1186/s12961-022-00910-6>.

¹⁵ Nabyonga-Orem J, Asamani JA, Olu O. Why Are African Researchers Left Behind in Global Scientific Publications? - A Viewpoint. *Int J Health Policy Manag*. 2024;13:8149. <https://doi.org/10.34172/ijhpm.2024.8149>. Epub 2024 Apr 9. PMID: 39099524; PMCID: PMC11608291.

The paper is organised around three interrelated dimensions:

- **Understanding CDR and its role in research ecosystems**

This section shows how CDR is understood across research systems, how it relates to other research types, and what characteristics, contributions and potential values distinguish it as an approach to inquiry.

- **Considering the role of public funders in relation to CDR**

This section considers whether, why and to what extent funders may seek to support CDR through funding instruments, portfolio choices, assessment approaches, governance structures, infrastructure, capacity building and international collaboration.

- **Considering making the case for and communication of CDR**

This section examines, where funders see a case for supporting CDR, how its role and long-term value can be communicated to the research community, policymakers and the public, and how participation in the global CDR enterprise can be broadened.

2. UNDERSTANDING CURIOSITY-DRIVEN RESEARCH AND ITS ROLE IN RESEARCH ECOSYSTEMS

2.1. Introduction

CDR is known by different terms. Within the framework of this discussion, CDR is research that is driven by the curiosity of researchers who select for themselves which research questions and methods of investigation they wish to pursue and to propose for funding. CDR explores fundamental questions across a broad range of fields, with a focus on how social, knowledge and other systems work, and how they emerge and transform. CDR is the commitment to asking profound questions whose value may not be immediately apparent, but which deepen our understanding of the world we live in.¹⁶ Yet, CDR forms the foundation for most major social, technological and medical breakthroughs, like X-rays, GPS, and CRISPR, by exploring the unknown and fostering human understanding of nature.

While CDR is designed within the context of existing knowledge, it is open-ended in the sense that its outcomes are uncertain and unpredictable. It is always accompanied by levels of serendipity, even though researchers would often consider this to be purposeful serendipity because of the way in which research is designed. JJ Thompson, on the occasion of his Nobel Prize speech on discovering cathode rays (as streams of

¹⁶ Summary from Atta Diallo, Hortense: Reflections on Bridging Communities through Curiosity-Driven Research. Speaking notes at the GRC Africa Regional Meeting, Bulawayo. October 2026.

electrons), toasted: *To the electron – may it never be of use to anyone.*¹⁷ This was his way, tongue in cheek, of protecting and fostering CDR. This moment of discovery was the birth of electronics.

Since the purpose of all research is to produce new knowledge that is subject to replicability and (some form of) peer review, all research should be imbued with the potential and the conditions for discovery even if it is of an applied nature. However, this curiosity is often shaped or constrained by societal needs, national priorities or other forms of political agenda-setting. CDR is therefore also referred to as an *investigator-driven* or *bottom-up* approach which deliberately avoids placing too many specifications on the research to be funded. Even though a distinguishing feature of CDR is its decoupling at the outset from a pre-determined outcome, this does not preclude its inclusion as an element in projects that may be outcome-driven.

2.2. Differentiating CDR from other research types

Public research funding agencies are interwoven into policy, fiscal and contextual environments which play a shaping role in the choices they make in their funding programmes. In that interplay, it is important to understand how CDR relates to other types of research: basic or fundamental research, strategic basic research, mission-oriented research, applied research and product-related research. This is especially important because the boundaries between these research types are becoming increasingly blurred.

CDR is often not so different from research that is characterised as *basic, fundamental, frontier, early-stage, blue skies* or *exploratory open-ended*. However, basic or fundamental research focus rather on the search for underlying theoretical foundations and less on the way of achieving it, whereas CDR is about the way of "getting there", of moving from ideas to research design and results. It is an approach to doing research that is utterly dependent on the freedom of enquiry. While basic research may easily be accomplished under a national or global priority of some kind or another, CDR creates conditions in which unexpected discoveries are more likely to emerge because researchers retain the flexibility to pursue unanticipated findings. CDR therefore offers a different, broader perspective on research.

Traditionally, the research–innovation–product spectrum was understood as linear, with basic research being at one end of the spectrum, and product-related research at the other, with applied research in between. In this model, basic research sometimes gives

¹⁷ Thompson, J.J. Proceedings of the Royal Institution of Great Britain, Volume 35, (p. 251), 1951.

rise to applied research which in turn may initiate product-related research. However, the traditional linear research system has largely been replaced by more recursive research cycles, with interplays between basic, applied and product-related research. As CDR spans over the different research types, it offers a broader perspective on the research and innovation cycle that has become more significant. This also points to the need for new approaches to nurturing and supporting it.

What has also changed is where CDR takes place. CDR is no longer confined to academia.¹⁸ It is increasingly evident across a wider range of research settings, including public research laboratories, research hospitals, large-scale research infrastructures, philanthropic research organisations, industrial and corporate research laboratories, and research-intensive start-ups or deep tech firms in areas such as biotechnology, AI, quantum technologies and advanced materials. This broadening of where CDR takes place has implications for how research councils understand, fund and enable CDR across increasingly diverse research ecosystems. It also opens up avenues for strong partnerships in CDR across different settings, facilitated by specific enabling conditions, rather than treating it as the preserve of academic institutions.

The modes of enquiry through which CDR is undertaken have also become more varied. CDR can take disciplinary, multidisciplinary, interdisciplinary or transdisciplinary forms. Depending on how projects are framed, it can generate new knowledge within individual disciplines as well as across connected knowledge domains.

The work of Gibbons et al. demonstrates the emergence of new forms of engaged research in which knowledge of a fundamental nature can be generated within research projects shaped by an applications imperative. This kind of knowledge generation occurs in multiple settings among them university-industry collaborations and university-community engagements. In their formulation of what they call “Mode 2 knowledge generation”, CDR outcomes are made possible by the way projects are framed, teams are composed and funding conditions are designed. CDR approaches may therefore be built into projects from the outset, including through the design of experiments, theoretical frameworks and modes of collaboration. The broader question for CDR is whether, and under what conditions, it can be preserved within use-inspired or mission-driven research arrangements. Such conditions include epistemic openness, researcher autonomy and room for serendipity.

¹⁸ Gibbons, M., Limoges, C., Nowotny, H., Schwartzman, S., Scott, P., and Trow, M. 1994. The new production of knowledge: The Dynamics of Science and Research in Contemporary Societies. London: Sage.

Another type of research is strategic basic research¹⁹, which shares many of the characteristics of CDR but may be associated with a national or global priority of some kind. While strategic basic research is tied to some final outcome-based priority and is therefore mission-oriented, it has funding opportunities that are designed for CDR-type activities. It is undertaken with the aim of building the ability of a research system to innovate in a particular area; its strategic orientation increases the potential for outcomes that lend themselves to practical application and innovation, while still allowing for the generation of fundamental knowledge. South Africa's large investment in strategic basic research on metallurgy, materials science and more recently smart composite materials over a long investment period was tied to the global competitiveness of its deep-level mining industry.²⁰ With special funding lines, scientists engaged in basic research on any branch of materials science they chose, without consideration of immediate application, but as part of a larger strategic innovation cycle.

This complex relationship between CDR and other research types can be represented graphically (see *Figure 1*) through a pair of intersecting axes: one showing the type of research, from basic to applied, and the other showing the mode of agenda-setting, from curiosity-driven to mission-driven. Placing real research projects within this space helps to show that the boundaries between research types are often fluid, and that projects may combine different orientations in practice.

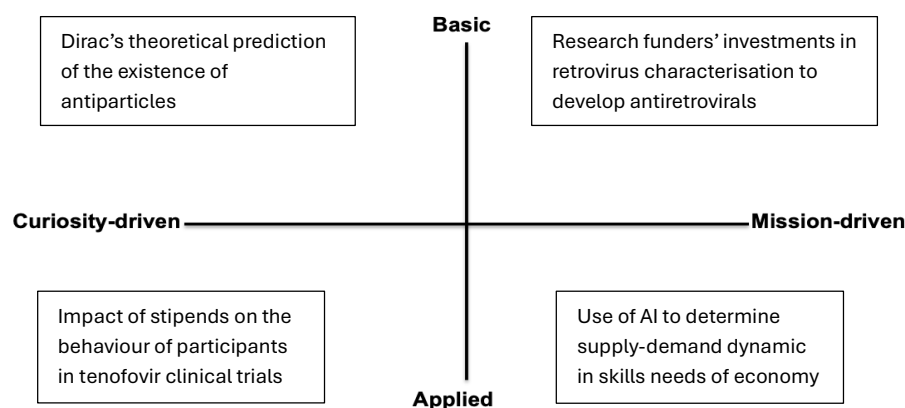


Figure 1: Mapping research types across research orientation and agenda-setting.²¹

¹⁹ Ruhan, A; YANG, Kejia; WU, Cong; and LI, Xiaoxuan (2022) "Origins of Strategic Basic Research and International Practices," Bulletin of Chinese Academy of Sciences (Chinese Version): Vol. 37: Iss. 3, Article 7. <https://doi.org/10.16418/j.issn.1000-3045.20220214001>. Available at: <https://bulletinofcas.researchcommons.org/journal/vol37/iss3/7>.

²⁰ See, e.g., DSI-NRF Centre of Excellence in Strong Materials, <https://www.wits.ac.za/strongmaterials/>

²¹ Adapted from Becher, T., & Trowler, P. (1989). *Academic Tribes and Territories: Intellectual Enquiry and the Culture of Disciplines*. Open University Press.

The figure shows that, for funders, the question is not only whether a project is labelled as CDR, basic, applied or mission-driven research. The more important question is whether the conditions associated with CDR, including epistemic openness, researcher autonomy and room for serendipity, can be preserved within different research arrangements. This does not remove the distinction between curiosity-driven and mission-driven agenda-setting, but it helps to show how research projects may combine different orientations in practice. In short, CDR can occur across the continuum from basic to applied research, with varying degrees of freedom, from entirely bottom-up ideas to thematic frameworks or calls.

2.3. The value of curiosity-driven research

CDR has intrinsic value to research itself and to research ecosystems and simultaneously extrinsic value to society at large. These are intermeshed with each other in the face of new knowledge being essential to both profit-driven and non-profit driven innovation and product development.

Firstly, CDR adds to or expands the existing body of knowledge providing the basis for new vistas of scientific and academic investigation, and, in doing so, may well, from time to time, produce paradigm-shifting outcomes that lead to new pathways of investigation and, in time, new bodies of knowledge. These cannot be predicted in the sense that paradigm shifts are usually driven by organic (though sometimes cataclysmic) changes in bodies of knowledge.²²

Secondly, CDR enhances not only the capacity to solve existing problems, but also to unearth previously unforeseeable ones (“unknown unknowns”), which is essential to sustainable systems of innovation. Because CDR allows researchers to follow unexpected lines of enquiry, it can help reveal areas of knowledge that were not previously visible or anticipated. Examples include the “unknome” – unknown genome²³, and deep-sea ecosystems in biology. The history of science provides evidence of the importance of CDR for most major social, technological and medical breakthroughs, and in contributing to solutions for significant human challenges, including:

- The rapid development of mRNA vaccines in the face of the crippling Covid-19 pandemic was only possible due to the pathbreaking work of Katalin Karikó and

²² World Economic Forum. Why curiosity is the secret to scientific breakthroughs. <https://www.weforum.org/stories/2015/08/why-curiosity-is-the-secret-to-scientific-breakthroughs/>.

²³ The Unknome project. <https://unknome.mrc-lmb.cam.ac.uk/>.

Drew Weissman, who overcame many obstacles and scepticism in producing the scientific groundwork necessary for this advance.²⁴

- Marie Skłodowska Curie’s scientific discoveries laid the foundation for the science of radioactivity and in doing so she discovered two elements, polonium and radium.
- P.A.M. Dirac’s astounding discovery of the positron and antimatter and its contribution to designing PET scans.
- Elinor Ostrom’s work on the governance of the commons, which challenged the long-dominant assumption that collectively used natural resources would inevitably be overused.²⁵
- The discovery of artemisinin in 1972 by Tu Youyou played a fundamentally important role in treating malaria.
- Amartya Sen’s work on welfare economics, shifted how human well-being is economically measured by focusing attention on human capabilities, social choice and individual freedom.

These examples suggest that the capacity of societies and economies to innovate sustainably, develop new products and solutions, and support long-term human well-being depends on a vibrant CDR enterprise that continually generates new knowledge. CDR fosters scientific breakthroughs, which may in turn enable technological breakthroughs. Thereby, CDR, like research more generally, benefits from a diversity of perspectives among researchers.

Thirdly, CDR contributes to building a society that sees value in knowledge and in the generation of that knowledge.²⁶ The thirst to discover and explain the unknown captures the imagination of early career researchers to address some of the most deep-seated, exciting secrets of the world and thereby ensures that there is a generational stream of research and researchers that are exposed to the methods and processes of CDR. CDR activities that are carefully constructed around graduate education programmes provide the basis for the development of high-level human capability in advanced sciences and the humanities with many positive outcomes for society. Researchers trained in CDR can later also accomplish significant use-inspired research.

²⁴ Bansal A. From rejection to the Nobel Prize: Karikó and Weissman's pioneering work on mRNA vaccines, and the need for diversity and inclusion in translational immunology. *Front Immunol.* 2023 Nov 8;14:1306025, <https://doi.org/10.3389/fimmu.2023.1306025>. PMID: 38022662; PMCID: PMC10663363.

²⁵ Nobel Prize. <https://www.nobelprize.org/prizes/economic-sciences/2009/ostrom/facts/>.

²⁶ Hanushek, Eric A., and Ludger Woessmann. 2015. *The Knowledge Capital of Nations: Education and the Economics of Growth*. MIT Press. They demonstrate that sustainable long-term economic growth in both developed and developing nations is overwhelmingly a function of the depth of cognitive skills in the population, or the “knowledge capital” of a nation. Knowledge also drives efficiency in processes. This knowledge capital includes the outputs of CDR.

Fourthly, carefully designed CDR lends itself to the co-creation of new knowledge involving academics and communities. A CDR-like approach of “merging knowledge” between academics and participants in Tanzania exposed to poverty effectively interrupted patterned social relationships, and through a re-configured understanding of whose knowledge counts and how conclusions are drawn, revealed several previously invisible dimensions of poverty.²⁷ This is a potential link between the theme of this discussion paper and the GRC Statement of Principles on Research for Sustainable Communities (2026).²⁸

2.4. Conclusion

In conclusion, CDR is a form of research or scientific enquiry closely linked to researcher freedom, diverse perspectives, openness of enquiry and purposeful serendipity. While it shares characteristics with basic, fundamental, early-stage, discovery, blue-skies or exploratory open-ended research, this paper positions CDR more broadly as an orientation to research that can appear across disciplinary, interdisciplinary, transdisciplinary, basic, applied, use-oriented and even mission-driven contexts, provided that sufficient researcher autonomy, epistemic openness and room for unexpected discovery are preserved.

As research ecosystems become more complex, and as CDR-type activity takes place across a wider range of settings, funders need to consider how CDR is recognised, supported and advanced within balanced funding portfolios. The value of CDR lies not only in its contribution to scientific breakthroughs and innovation, but also in its role in developing future generations of researchers, strengthening societies that value knowledge, and broadening the diversity and resilience of global knowledge generation. It is important to understand that there is no one model for CDR that fits all funders; it is shaped by the conditions experienced in each environment.

For the GRC, this creates an opportunity to support discussion on how CDR is defined, distinguished and identified within increasingly complex research systems, and what this means for funders seeking to build sustainable, inclusive and future-oriented research ecosystems that advance equitable participation across countries, institutions, disciplines, career stages and social groups historically underrepresented in research,

²⁷ Wetengere, K., Bray, R., Kalisa, M., & Bhallamudi, I. (2023). Applying ‘merging of knowledge’ in Tanzania: What can we learn about interrupting patterned relationships to reveal hidden dimensions of poverty? *Action Research*, 22(1), 15-31. <https://doi.org/10.1177/14767503231202628> (Original work published 2024).

²⁸ Global Research Council. Statement of Principles: Research for Sustainable Communities (2026). https://globalresearchcouncil.org/fileadmin//documents/GRC_Publications/SoP_2026_Research_for_Sustainable_Communities_EN.pdf.

while also recognising diverse knowledge traditions, research contexts and questions that have been under-researched.

2.5.Guiding questions: Defining CDR and its distinct value in research ecosystems

The guiding questions below are intended to support reflection on how curiosity-driven research is understood, defined and recognised across different research systems. They invite GRC participants to consider not only the terminology used in their own contexts, but also how changing research paradigms are shaping the way CDR is funded, advanced and valued within broader research portfolios.

- a. How is CDR defined or understood in your country, and how does this relate to terms such as basic, fundamental, early-stage, discovery, blue-skies or exploratory open-ended research?
- b. How, if at all, does your organisation measure the share of its portfolio that is curiosity-driven, and what classification does it use?
- c. What concrete examples show how CDR has contributed to society, innovation, researcher development or knowledge generation in your country or region?
- d. How can underrepresented research systems move beyond using existing knowledge and start creating their own new ideas, methods, and discoveries?

Regional Discussions

- e. Sub-Saharan Africa: How much intellectual risk can researchers afford to take when research funding is scarce? Does scarcity make researchers more innovative, or does it constrain the questions they are able to ask?
- f. Asia-Pacific: What value does CDR have for research systems at different stages of development in the Asia-Pacific region?
- g. MENA: To what extent do research environments in the MENA region grant researchers the freedom to pursue self-defined inquiry, and what expected outcomes, both immediate insights and long-term breakthroughs, justify its distinct value?
- h. Americas: How can agencies protect long-term CDR funding when faced with budget fluctuations and the political demand for immediate, challenge-oriented solutions?
- i. Europe: How is CDR defined or understood in the European context, and how does this relate to mission-oriented research? How should they be articulated in the context of increasing funding pressures in Europe (using concrete examples such as the prospective EU Framework Programme for Research and Innovation (FP10, 2028-2034))?

3. CONSIDERING THE ROLE OF PUBLIC FUNDERS IN RELATION TO CDR

3.1. Introduction

Funding CDR that is long-term and has unclear pathways to societal impact requires considerable trust from policymakers and societies in the ability of research funders to identify and select high-quality proposals coming from the researchers themselves. Funders therefore need to raise awareness of the importance and value of CDR among policymakers and society at large, while also help building and maintaining an effective enabling research culture and environment for funding CDR. This includes dedicated funding instruments, efficient assessment frameworks and expert governance structures and mechanisms to ensure accountability. Furthermore, funders can contribute through dedicated resources and appropriate infrastructure, support for diverse talent and career structures, and incentives that foster curiosity, openness, shared values, and ethical principles. Such an enabling environment should protect the conditions that allow CDR to flourish, including research autonomy, openness of inquiry, longer time horizons and room for serendipity while also ensuring that public investment in research remains credible and well governed.

The GRC, working with allied institutions, could play a role in facilitating discussion and shared learning on these structures across different research systems. Building enabling environments for CDR would be different for individual ecosystems depending on national conditions such as the extent of research freedom, the availability of financial and human resources, the capacity to mobilise a responsible research assessment system, building enabling research culture and incentive schemes. Strong cross-border partnerships can further support the development and strengthening of enabling environments for CDR within individual countries.

3.2. Funding CDR across changing research ecosystems

As research funders usually do not have only one mission, they need to balance investments across curiosity-driven, use-inspired (in which research questions may be co-shaped with users) and mission-oriented research, recognising that advances arising from CDR frequently underpin long-term progress towards national, regional and global development priorities. Just as CDR can be placed on a continuum, instruments to fund CDR can be placed on a continuum as well, ranging from instruments which allow a nearly unrestricted quest for knowledge to instruments that are more prescriptive, but might still offer some leeway for CDR:

- *Standing Open Procedures:* The only restraints for researchers are the available budget and funding period of the project.

- *(Standing) Open Calls:* Include in addition a deadline for preparing applications.
- *Open calls in a specific discipline:* Applications are only allowed from within a particular discipline, but researchers are otherwise free to decide on their projects.
- *Thematic calls:* Put the focus on a specific topic to be researched, but researchers are free to follow their own project ideas within the topic.
- *Mission-oriented calls:* Researchers contribute to specific research objectives but have some leeway in choosing suitable topics to the mission.

On this continuum, funders can either choose to set up completely open funding streams for CDR or embed CDR elements in otherwise more predefined settings. For example, CDR could be prioritised within a certain discipline or topic or be intertwined in mission-oriented settings, taking into account the idea that there are multiple models of CDR that depend on the prevalent conditions in nations and regions. This would help funders respond to more recursive research cycles, where the boundaries between curiosity-driven, applied and mission-oriented research are increasingly complex.

In addition to dedicated funding streams for CDR, consideration could therefore be given in larger research consortia to the potential inclusion of CDR projects. Public funding agencies could work with government and industry to build strategic lines of funding for CDR. Examples of this are:

- In South Africa, the nationally determined programme to enhance the country's attempts to de-fossilise its energy industry through the Just Energy Transition (JET), which could see the emergence of a culture of CDR in the context of addressing a major economic challenge.
- Within *Horizon Europe's* predefined thematic lines of funding to support the innovation pipeline (Pillar II, Global Challenges and European Industrial Competitiveness) researchers can still pursue CDR.

In many research systems, the challenge is not only the lack of or decrease in CDR funding, but also the lack or decrease of research capacity to perform high-quality CDR. Public research funders might therefore consider instruments that combine CDR funding with capacity-building elements. An example of this is NSERC's Discovery Grants programme which has capacity building built into the funding model.²⁹

²⁹ NSERC. Funding opportunity. Discovery Grants program (individual). <https://nserc-crsng.canada.ca/en/funding-opportunity/discovery-grants-program-individual>.

Another avenue for intervention may be through bilateral and multilateral programmes, as well as multinational funding agencies. This is particularly important for national research ecosystems that have fallen behind in CDR activities because of resource constraints or limited institutional capacity. In such contexts, explicitly purpose-designed international collaborations could help strengthen CDR capacity, expand access to expertise and infrastructure, and support the development of more sustainable research pipelines. The question for funders is therefore how existing bilateral, regional and global partnership modalities can be used more deliberately to establish, protect and strengthen CDR in research systems where it remains underdeveloped or is at risk.

At the same time, public funders of research should always be aware of the need for the infrastructure, including facilities, equipment, services and resources, both physical and virtual, to be put in place and maintained. Infrastructure is often what limits CDR in lower-resource systems.³⁰ Research funders should therefore strive towards linking CDR funding streams to increased investment in research infrastructures, both at the national level and through international partnerships. For instance, funders could include infrastructure costs as eligible expenses in CDR grants. They could facilitate partnerships between research institutions in different countries to share infrastructure resources and they could support the development of virtual research infrastructures, including access to online libraries, data repositories, and collaborative platforms.

Because of the vast changes occurring in the research landscape, it is important that public funders of research consider additional and alternative approaches to funding CDR. This includes dedicated funding streams, the embedding of CDR elements within wider research grants, strategic CDR linked to national or global priorities, interdisciplinary and transboundary CDR, international collaboration, and infrastructure-linked funding. Taken together, these approaches recognise that CDR is not only a separate funding category, but also an element that may need to be protected and enabled across a changing and increasingly interconnected research system. In this context, attention may also need to be given to freedom of research – that comes with accountability and responsibility of researchers – as an important enabling condition for CDR to thrive, particularly where the scope for independent scientific inquiry is limited or under pressure, while recognising that safeguarding freedom of research itself may also require investment.

³⁰ Mabuza, Eddy. (2026). The Imperative for World-Class Research Infrastructure in Africa: A Strategic Lever for Equitable Science Diplomacy. *Science and Diplomacy*, AAAS.
<https://doi.org/10.1126/scidip.aeh6465>.

Across all the potential funding approaches for CDR outlined above, it is important for funders to take into account evidence that knowledge produced through CDR is not automatically of benefit to all. It can be prone to contributing to the reproduction and compounding of existing biases and inequities in societies. Women, as well as other underrepresented groups, may face disadvantages in CDR funding. In this sense, evidence from research on grant selection suggests that seemingly neutral notions of scientific excellence may be applied differently to women and men, including in relation to attributes such as scientific independence and mobility.³¹ Evidence also suggests that access to emerging research frontiers may not be equally distributed: women can be less likely to occupy leading research roles when new fields and opportunities emerge, pointing to the importance of considering inclusion when designing funding support for CDR.³²

3.3. Developing effective CDR assessment frameworks

At a time when there is such a high level of contestation over resources for research, fostering CDR needs to be supported by effective research assessment frameworks. This may require some thought because often a CDR project may have uncertain trajectories and outcomes. Like all effective assessment frameworks, for CDR this should be multifaceted in the sense that they measure a range of activities rather than just research outcomes. To support informed funding and policy decisions, it is important to ensure that such assessment frameworks are broadly accepted as being reliable in measuring the knowledge generating potential of research proposals.

The GRC's Responsible Research Assessment Working Group (RRA-WG) argues that assessment should help funders value CDR on its own terms rather than press it into frameworks designed for more directed or short-term research.³³ On the one hand, funders should recognise, reward and incentivise diverse research contributions. This may also include distinctive research characteristics, for example – research that may be executed over a longer period of time, exploratory research, uncertain pathways and the potential for research contributions that may not be immediately visible through conventional quantitative metrics. On the other hand, the assessment needs to avoid narrowing incentives in ways that could discourage risk taking, originality,

³¹ Van den Besselaar, P., Sandström, U. and Schiffbaenker, H. et al. (2017), Gendered Dimensions in ERC Grant Selection: genderERC Final Report. <https://cordis.europa.eu/project/id/610706/reporting>.

³² Biliotti, C., Verginer, L., & Riccaboni, M. (2026). Breaking new ground, reinforcing old gaps: Gender disparities in access to emerging research frontiers (Working paper). European University Institute. https://cadmus.eui.eu/entities/publication/100012ef-328a-4f46-878e-088d598d030c?utm_source=chatgpt.com

³³ Global Research Council, Responsible Research Assessment Working Group. 2024. Dimensions of Responsible Research Assessment <https://globalresearchcouncil.org/about/responsible-research-assessment-working-group/dimensions-of-rra/>.

interdisciplinarity or foundational knowledge generation. Research assessment reform, as advanced through initiatives such as the Coalition for Advancing Research Assessment (CoARA) and the (San Francisco) Declaration on Research Assessment (DORA), and efforts to support CDR can be mutually reinforcing, with broader approaches to research assessment creating more enabling conditions for CDR, while CDR in turn highlights the importance of assessment approaches that recognise diverse forms of research and research contributions.

Responsible research assessment in a CDR context also requires attention to potential gender and other forms of bias that may disadvantage underrepresented groups in assessment processes, as well as appropriate awareness of such biases among reviewers. This is particularly relevant given evidence suggesting that female-led research teams may be more likely to produce novel and disruptive research while receiving less scientific impact than comparable male-led teams, pointing to potential disparities in how innovative research contributions are recognised and valued.³⁴

From this follows the need to set up expert evaluation structures with a high degree of awareness and independence keeping in mind that there are different targets to be evaluated, such as assessing funding proposals and determining whether a funding programme meets its objectives. In selecting the most promising proposals, the orientation towards (national) research agendas and societal and economic impact criteria should be reduced to a minimum. Examples of funding mechanisms for curiosity-driven research, such as that of the European Research Council (ERC) rely on an independent body not only for the selection of projects but also for the decisions on the overall scientific funding and management strategy.³⁵ The ERC Scientific Council, composed of scientists and scholars, independently decides on its work programme, including calls for proposals, funding rules and selection criteria. In doing so, the ERC supports world-leading research, with findings from many of its funded projects ultimately resulting in patents.

In Germany, the research community votes every four years on its members in the more than 50 review boards of the DFG. These review boards compare incoming proposals to identify the most qualified projects within the defined financial conditions of their specific research areas. The review boards comprise of elected representatives per

³⁴ Yang, A. J., Ding, Y. and Liu, M. (2024), Female-led teams produce more innovative ideas yet receive less scientific impact, *Quantitative Science Studies*, 5(4), 861-881 (study relates to publications and scientific impact not directly to funding decisions). <https://direct.mit.edu/qss/article/5/4/861/124962/Female-led-teams-produce-more-innovative-ideas-yet>.

³⁵ For details see, ERC Website, <https://erc.europa.eu/about-erc/erc-president-scientific-council>.

subject area, and the number of representatives per subject depends on the number of funding proposals submitted to the DFG in that research area.

The establishment of independent governance structures may be more challenging in contexts with smaller research communities or limited pools of qualified experts, particularly where experts may face pressures from political or commercial interests. Research funders in these contexts may therefore need to consider how to build governance structures that are both independent and representative, and that are able to withstand external pressures. They may also consider the possibility of providing the support for evaluation panels to be drawn from other larger or more developed science systems. An example of this is the collaboration between the King Abdulaziz City for Science and Technology (KACST) and the American Association for the Advancement of Sciences (AAAS) on peer review.

3.4. Evaluation mechanisms

The high degree of freedom for CDR comes with significant responsibility for both researchers and funders. The timescales for the different research types vary and it is likely that CDR-type projects take longer, which in turn affects funding cycles. The serendipity associated with this kind of research also makes it more complex to measure productivity and outcomes. These difficulties require funders to engage in regular self-reflection on the suitability of their funding instruments and assessment frameworks. The extent to which funding agencies can demonstrate confidence in the assessment of CDR funding towards policymakers is therefore critically important.

In its 2019 Statement of Principles, the GRC participants recognised “that assessing the impact of research ex post can enhance the trust of decision-makers as well as society, in that the research they fund contribute to the solution of societal challenges or to fostering innovation”.³⁶ For this ex-post evaluation exercise, the GRC recommended bibliometric and patent studies, econometric studies, case studies, narrative studies, surveys and programme evaluations as useful ways to assess the impact of the funded research. This clearly recognises that the advancement of knowledge or scientific impact is one of the different forms that research impact may take. Ex-post evaluation therefore needs to be sufficiently connected to the funding procedures, so that funding instruments and assessment mechanisms can sustain the trust needed to fund CDR and demonstrate its distinct value to society. More funding organisations are also joining

³⁶ Global Research Council. Statement of Principles “Addressing Expectations of Societal and Economic Impact”. (2019), Principle 13, https://globalresearchcouncil.org/fileadmin/documents/GRC_Publications/GRC_2019_Statement_of_Principles_Expectations_of_Societal_and_Economic_Impact.pdf?utm_source=chatgpt.com.

forces to improve their own practices, including through platforms, such as the OECD Global Science Forum (GSF).

At the same time, achieving accountability regarding CDR will always be difficult because of its specific nature. Ideally, CDR funding therefore requires political frameworks that are receptive to long-term funding. Long-term funding mechanisms, for instance, would not only make it easier to set up CDR funding schemes, but would also help to alleviate political time horizon pressures on research, thereby increasing the ability of funders to demonstrate the visible impact of CDR over time.

The German “Pact for Research and Innovation” is a useful example in this regard. It provides annual budget increases for the DFG and German non-university research organisations over a period of several years. In return, the research organisations commit themselves to achieving joint research policy objectives and report regularly on the progress made. As this model requires a level of political stability, institutional capacity, and fiscal resources that may not be available in all countries, research funders might consider how its underlying principles – long-term commitment, mutual accountability, and regular reporting – could be adapted to different national contexts.

3.5. Conclusion

Enabling environments for CDR require more than the availability of funding. They depend on funding instruments that protect researcher autonomy and openness of inquiry and value the diversity of perspectives, assessment frameworks that counteract biases and recognise uncertainty and longer time horizons, expert governance structures that are sufficiently independent, and evaluation mechanisms that can sustain trust with policymakers and society. These conditions will vary across research systems, particularly where resources, infrastructure and expert capacity are unevenly distributed. For public funders, the challenge is therefore to design funding and governance arrangements that both protect the distinctive nature of CDR and ensure credible accountability for public investment. This also points to an important role for the GRC and allied institutions in supporting shared learning, international collaboration and the adaptation of enabling structures to different national and regional contexts.

3.6. Guiding questions: the role of public funders in building enabling environments for CDR

The guiding questions below are intended to support discussion on the conditions that enable CDR to be funded, protected and strengthened across different research systems. They invite GRC participants to reflect on funding instruments, assessment and

governance structures, international partnerships, infrastructure needs and the role of the GRC in helping funders sustain CDR in the face of pressures that they experience.

- a. What funding instruments have been effective in supporting and advancing CDR in your country?
- b. How can funders include the funding of CDR elements in applied or mission-oriented funding programmes?
- c. How can assessment, reporting and incentive frameworks support CDR without discouraging risk taking, originality, longer-term inquiry and ensure that there are no biases against the participation and support of women and underrepresented groups?

Regional Questions

- d. Sub-Saharan Africa: To what extent have funding instruments been developed to support CDR activities in mission-oriented research?
- e. Asia-Pacific: How can mission-oriented research and curiosity-driven research work together? What kinds of policy and programme design are needed to support CDR within mission-oriented environments?
- f. MENA: Given current financial limitations in national programmes, how can MENA public funders redesign funding instruments and evaluation practices to better balance CDR with urgent national priorities?
- g. Americas: How can research councils leverage their countries' unique strengths while collaborating and cooperating across the larger regional and global research community, being mindful of challenges to build a critical mass of researchers when beginning a new CDR program?
- h. Europe: What instruments, such as research funding and assessment, can public funders effectively use to support and protect CDR in the European context? How can international partnerships help strengthen the capacity, expertise and infrastructure needed to enable CDR across differentiated research systems?

4. CONSIDERING MAKING THE CASE FOR AND COMMUNICATION OF CDR

4.1. Introduction

Societies create, invest in and maintain research ecosystems because they are seen to be of value. The key to protecting CDR therefore lies in strengthening public and policy understanding of its purpose, its functions and its contributions to society. CDR is an investment in the future, in social and economic innovative capacity, and in the development of sustainable applications- and product-related research. From this perspective, CDR is not detached from societal needs; rather, it expands the knowledge base from which future social and economic innovation can emerge. Societies provide the enabling political environments for CDR, including the freedom of research that is fundamental to viable research ecosystems and their subsequent value chains. Reciprocally, the knowledge that CDR produces could empower societies to safeguard these enabling political environments for CDR.

An important starting point for making a compelling case for CDR is to recognise that funding CDR is a choice that involves trade-offs. These may include the reallocation of resources, the acceptance of risk, the possibility that benefits may only emerge over long timeframes or may be taken up by countries other than the ones that funded the research, the need to ensure that women and underrepresented groups are not marginalised, and the tensions between long-term knowledge generation and short-term policy or accountability demands. At the same time, it should be strongly emphasised to policymakers that *not* funding CDR also entails trade-offs, among them a potential decline in disruptive research, as well as a decline in research in areas which may not be regarded as societal challenges at a given point in time, but which may be seen as such at a later stage.³⁷ This perspective should be communicated with confidence, making clear that CDR is not an option, but an important part of the funding mix.

As delineated above, there are important stories to tell about how many human inventions and breakthroughs would not have been possible without long-term commitments to CDR. At the same time, these success stories carry an inherent risk: policymakers may come to expect that all CDR projects should lead to similar breakthroughs or visible benefits. Expectation management is therefore important. Public funders need to explain the logic of the scientific endeavor, the long-time horizons associated with CDR, and the importance of recognising “negative findings” or “explanatory outcomes” as a normal and valuable part of the research enterprise,

³⁷ For example. Editorial, ‘Don’t deprioritize curiosity-driven research’. *Nature* 650, 524 (2026)
<https://doi.org/10.1038/d41586-026-00469-0>.

especially in contexts where resources are limited. Further note should be taken of fact that this may be more challenging for some researchers, such as early career researchers, those in less-resourced institutions or systems or those belonging to underrepresented groups.

Finding new ways to articulate the short- and long-term benefits of CDR is therefore an important challenge, particularly as public funders of research face increasing pressure to support use- and mission-oriented research. Making a compelling case for CDR therefore requires more than defending it within funding agencies or policy spaces. It also requires a broader effort to strengthen public understanding of research and the long-term value of open-ended enquiry. This is where GRC participants, working with partners, can help build wider constituencies for CDR.

4.2. Building public and collective support for CDR

The key to communicating the benefit of CDR lies in developing a public consciousness about the purpose and functions of this form of research and in strengthening the public understanding of the contributions it makes to society. The argument against the funding of CDR as wasteful expenditure can be an easy one to make. This can be countered if the benefits of CDR are communicated in clear and understandable ways that build public awareness, understanding and trust.

Public funders of research cannot address this challenge by themselves. It requires long-term partnerships with organisations and agencies that work on identifying benefits of CDR and building the public understanding of research. Such partnerships could also open channels for activities with schools and parents, where new cultures of curiosity and knowledge may take root. There may be lessons to draw from the activities of ‘barefoot scientists’ in India³⁸ as well as from the growing role of researchers building public understanding through audio podcasts, video broadcasts, and other public facing platforms. As importantly would be the ongoing discussions and collaborations between the public funders of research and their respective governmental ministries and other implicated ministries that depend on the kinds of knowledge produced through CDR, such as health.

Just as important is the role of the public funding agencies in working with early career researchers, female researchers and other underrepresented groups to strengthen their resolve in engaging in CDR when many may face pressure to take the route with least risk.

³⁸ For example. Dutta, U. (2026). Cultural and communicative pathways in grassroots science and innovation: field research learnings from under-resourced rural India. *JCOM* 25(2), A01.
<https://doi.org/10.22323/168820251230160857>.

Incorporating their perspectives, expertise, and research questions from an early stage can contribute to the quality of the research itself. In the spirit of building partnerships, the GRC could imagine sharing the opportunity it provides for national research councils to interface, collaborate and share best practices with other global forums. Public funders should consider highlighting their work with early career researchers at undergraduate level, so that knowledge, confidence and resolve are built over time.

Bringing public funders together to address and communicate the importance of CDR also provides the basis for understanding how CDR activities may be strengthened across countries that are currently underrepresented in this sphere of research. CDR would benefit from a platform that has national, regional and global reach. The GRC could use its convening power to clearly articulate the benefits of CDR, gather case studies, discuss challenges in implementing programmes of CDR, and consider how CDR can be balanced with more use-inspired research. The critical point is that building public bulwarks against the erosion of CDR depends on a multifaceted approach aimed at different audiences with different needs. This includes policymakers, the wider public, schools, parents, students, early-career researchers and the institutions that shape research culture.

4.3. Expanding and diversifying the global CDR enterprise

A compelling case for CDR must recognise that the global CDR enterprise remains unevenly developed and distributed. The performance of research is shaped by the availability of physical resources and human capacity which in turn are often a function of internal prioritisation of resources and of both geopolitical and national power dynamics. The discrepancies produce deep and vast imbalances in the performance of research, both within national contexts and between nations and regions. In Global South societies that are strongly shaped by historical legacies of colonialism, these imbalances may take on race, gender and class representations, imbalances that also exist in Global North societies. In resource-stressed conditions it is understandable that more immediate economic returns and use-inspired research may be prioritised over the promotion of CDR. This may exacerbate their dependence on the better-funded research systems.

If this cycle of dependence is addressed, all research ecosystems must be able to play a meaningful role in the global production of knowledge. This is not only a matter of funding gaps or research capacity constraints; it is also an untapped opportunity to broaden the range of questions, perspectives, knowledge traditions and socioeconomic experiences that shape global knowledge production. Since the grand challenges facing humanity are simultaneously local and global in scale, it is important that the performance of CDR

draw on the intellectual resources, socioeconomic realities, cultural contexts and lived experiences of every society. Emerging research ecosystems are not only places where knowledge is applied; they are also places where new questions, new methods and new discoveries may emerge.

In support of building a global knowledge commons, CDR is essential to the study of Indigenous knowledge systems – an important part of the decolonisation project in many parts of the world. The co-existence and co-habitation of knowledge systems that were systematically repressed during the colonial, and even postcolonial era(s), opens the way for complex new explorations of intersections between knowledge systems. Many millions of people navigate life paths in and out of these knowledge systems, for example using traditional health systems and allopathic medicine, depending on the circumstances. Knowledge systems embedded in culture, traditions and oral histories depend heavily on unfettered scholarship, both to explore the intersections between them and to understand the evolution of knowledge systems.

In summary, strengthening the inclusive performance of CDR in historically underfunded research ecosystems would likely help to reduce their dependence on better-resourced systems. Simultaneously this would enrich the global research enterprise with more diverse epistemic approaches and outcomes and strengthen the quality, diversity and resilience of research globally. The GRC may consider promoting the exchange of case studies of what has worked in national or regional contexts, or in underfunded research ecosystems within a nation. As CDR requires workforce development and long-term investments, it is not only the amount of investment, but a commitment to it for the long-term that will lead to beneficial outcomes for society.

While addressing the need for CDR in resource-constrained systems has a social justice dimension to it, taking into account geopolitical and national sociopolitical inequity, another way to communicate the value of CDR to society would be to focus on it as a producer of public goods. Jawaharlal Nehru's vision of post-independence India saw the role of modern science as producing "the adventurous and yet critical temper of science". He envisioned India as a place where "the search for truth and new knowledge, the refusal to accept anything without testing and trial, the capacity to change previous conclusions in the face of new evidence, the reliance on observed fact and not pre-conceived theory [...] should be a way of life, a process of thinking, a method of acting and associating with our fellowmen".³⁹

³⁹ Nehru, Jawaharlal (1946). *The Discovery of India*. Calcutta (India): The Signet Press. p. 453.

The implication of Nehru's vision is that research has a fundamental public value: it improves the quality of society in multiple ways and produces public goods. This is one way to think of CDR and its relationship with society. Joseph Stiglitz argues that knowledge, which CDR is an important vehicle for producing, is an obvious form of the public good.⁴⁰

4.4. Conclusion

Making a compelling case for CDR requires public funders to articulate its value not only as a source of future breakthroughs, but also as a foundation for sustainable research ecosystems, democratic societies, diverse knowledge traditions and global scientific resilience. This case must be made honestly, recognising the trade-offs, risks and long timeframes involved in funding open-ended enquiry, but also confidently highlighting the trade-offs involved in *not* funding CDR. It must also be made collectively, through partnerships that strengthen public understanding, support researchers at different career stages, and build wider constituencies for CDR. For the GRC, this creates an opportunity to use its convening power for its participants to explore how to explain and strengthen CDR across different systems, while also expanding participation among countries, communities, women and minorities groups that remain underrepresented in the global production of knowledge. In this sense, protecting CDR is not only about preserving existing spaces for research freedom; it is also about widening the future of knowledge generation.

4.5. Guiding questions: Making a compelling case for CDR

The guiding questions below are intended to support discussion on how funders can make a compelling case for CDR in different policy, institutional and public contexts. They invite GRC participants to reflect on how the value of CDR is communicated, how expectations are managed, how public and researcher support can be strengthened, and how the GRC can support collective action to expand and protect CDR across diverse research systems.

- a. What experiences or practices do you have in communicating the value of CDR to government, policymakers and society?
- b. How can funders communicate the value of CDR while also managing expectations about risk, uncertainty, long timeframes and possible "negative" or explanatory outcomes? How can the bias against specific groups be prevented?

⁴⁰ Stiglitz, Joseph E (1999). "Knowledge as a Global Public Good." In *Global Public Goods International Cooperation in the 21st Century*, ed. Inge Kaul, Isabelle Grunberg, and Marc Stern. Oxford University Press.

- c. How can public understanding of CDR be strengthened among different audiences, including policymakers, the wider public, students, early-career researchers and research institutions?

Regional discussion

- d. Sub-Saharan Africa: What kinds of engagements have there been with governments, the private sector and the community at large to enhance their understanding of the importance of CDR and its funding?
- e. Asia-Pacific: How can international collaboration help strengthen curiosity-driven research capacity and support more diverse contributions to global knowledge creation across the Asia-Pacific region?
- f. MENA: What strategies can effectively communicate the long-term economic and societal return of curiosity-driven research to MENA policymakers and the public, given the region's focus on immediate development goals?
- g. Americas: What are best practices and lessons learned for articulating why research councils have CDR programmes and also for communicating the results of those CDR programmes to the general public?
- h. Europe: How can European public funders communicate the value of CDR and strengthen understanding of its role among different audiences (including the wider public, policymakers, students, early-career researchers and research institutions), while also managing expectations about risk, uncertainty, long timeframes and outcomes that may be exploratory or negative?