Responsible Research Assessment – Global Research Council Conference Report 2021 - Annexes

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Annex A – Working Definitions and Assumptions

GRC Virtual Conference on Responsible Research Assessment

Definitions and assumptions

To aid consensus-building, it is important to have working definitions of the key terms used throughout the GRC conference. These working definitions will be updated following the conference.

Research assessment

Funders deliver a wide range of research assessments. They can broadly be categorised under the following headings:

- assessment of research outputs, impact, or culture
- assessment of research funding applications/research grants
- assessment of researchers (either through CVs in grant applications, or for direct schemes for individuals such as fellowship schemes)
- assessment of research organisations.

Assessments can be directly, indirectly, or not at all related to research funding. Assessments can either look forward, predicting future performance (ex-ante), or they can assess based on performance demonstrated by research activities that have already taken place (ex-post).

The reasons for delivering research assessment have been outlined in the following terms[1]:

> **Analysis.** to understand why, how and whether research is effective, and how it can be better supported.
>
> **Advocacy.** To demonstrate the benefits of supporting research and enhance the understanding of research and its processes among policymakers and the public.
>
> **Allocation.** To determine how to distribute funding across the research system.
>
> **Accountability.** To evidence that money and other resources have been used efficiently and effectively, and to hold stakeholders to account.
>
> **Acclaim.** To compare and recognise the value of higher education institutions and the research conducted within them.
>
> **Adaptation.** To steer change in organisational structures, behaviours and cultures, and research activities and priorities.

Funders also develop performance and evaluation frameworks to assess progress towards their own objectives and to demonstrate the impact of their funding instruments.

Other stakeholders in the research ecosystem deliver their own research assessments. For example, research organisations recruit and promote individual researchers and allocate research funding internally, while league table providers assess organisations and publish rankings.

[1] https://re.ukri.org/documents/2019/rand-europe-full-report/

Our working definition covers all the above but with a focus on funders' roles within the wider research assessment system.

Research assessment criteria

For the purposes of our discussions, criteria are assumed to be those things which are valued by research funders. They establish desirable characteristics and set out the measures that will be used to determine the quality of the research. Criteria are often phrased as conditions to be fulfilled (e.g. research must be original, significant, and rigorous to be deemed excellent). Criteria are supplemented by measures and indicators (qualitative and quantitative) which show the extent to which the conditions have been met.

Research assessment processes

In the context of the event, we understand research assessment processes to refer to the methods by which the research/researcher/research organisation is considered against the criteria, using relevant indicators and measures, to form recommendations or outcomes. The term is used to encompass all practical aspects of the assessment, including (but not limited to):

- inputs into the assessment (e.g. researcher résumés, publications, narrative statements, citation data);
- those carrying out the assessment (e.g. expert panels, peer reviewers, AI algorithms);
- and the methods of assigning scores or rankings.

Responsible research assessment

A purpose of the conference will be to agree a definition of responsible research assessment and the definition offered here is therefore a work in progress.

We suggest that responsible research assessment is defined by the following characteristics. This has been informed by a review of existing frameworks.[2]

- Assessment processes and criteria should be defined in advance and should be transparent and accessible
- Quantitative evaluation should support qualitative expert-based assessments
- Assessment criteria and processes should be inclusive and promote equality and diversity within the research community
- Assessment criteria should be considered in line with the research missions of the organisation, researcher or research group being assessed
- Variation by field should be accounted for in the indicators used to supplement research assessment criteria

[2] The San Francisco Declaration on Research Assessment (https://sfdora.org/); Leiden Manifesto for Research Metrics (http://www.leidenmanifesto.org/); The Metric Tide (https://re.ukri.org/sector-guidance/publications/metrictide/); Science Europe Study on Research Assessment Practices (https://www.scienceeurope.org/ourresources/science-europe-study-on-research-assessment-practices/); The Hong Kong Principles for assessing researchers: Fostering research integrity (https://journals.plos.org/plosbiology/article?id=10.1371/journal.pbio.3000737#sec010); Plan S (https://www.coalitions.org/); GRC Statement of Principles on Peer/Merit review 2018 (https://www.globalresearchcouncil.org/fileadmin/documents/GRC_Publications/Statement_of_Principles_on_PeerMerit_Review_2018.pdf); INORMS SCOPE Framework (https://inorms.net/wp-content/uploads/2020/05/scope.pdf); FOLEC https://www.clacso.org/en/folec/ .

- Assessment processes and criteria should recognise the wide variety of research outputs and activities that contribute to the role of research and researchers
- Assessment processes and criteria should be regularly reviewed and updated
- Assessments should be based on fair and accurate data. Where possible the data used should be transparent so that those being assessed can verify information. Confidentiality and data protection will take priority
- Assessment processes should be delivered impartially
- Assessment type should be appropriate to the purpose and consider the burden on all parties involved
- Assessment criteria and processes should value behaviours that support a positive research culture.
- Assessment committees should consist of relevant experts who are able to assess objectively the quality of the research that is being assessed.

Responsible research assessment and equality, diversity and inclusion (ED&I) considerations intersect. RRA policies and approaches must be considered from the perspective of diversity. The above characteristics of RRA should support research funders to understand this intersection and inform their decisions on what and how to assess.

Annex B – Regional Meeting Reports

Summary of the GRC Sub-Saharan Africa Regional Session of the GRC Virtual Conference on Responsible Research Assessment

Wednesday, 25 November 2020

Chaired by Dr Molapo Qhobela

CEO, National Research Foundation, South Africa

The topic of responsible research assessment was considered a very timely and pertinent topic for the Sub-Saharan Africa region by the session's participants.

A number of specific issues were identified as part of the session, most notably considerations around Open Science, Equality, Diversity and Inclusion (EDI), intra-African collaboration opportunities, and multidisciplinary research. Research ethics specifically in the context of indigenous communities was also viewed as an important consideration, particularly for emerging economies.

Additional key discussion points from the regional session included reflections on the catalytic role of the Science Granting Councils Initiative (SGCI) in advancing discussions between funding agencies, including on responsible research assessment. The SGCI is regarded as crucial in supporting the development of existing agencies in the Region, and for providing a platform for deeper learning. How to use SGCI consistently alongside broader discussions taking place within the GRC was therefore an important aspect.

Considering context was also acknowledged as important for the region, in particular for emerging economies who are developing their national research eco-systems. Contextual considerations identified included, but were not limited to, proxies for excellence as well as the shape and size of national science ecosystems, including their respective research bases and research performing organisations' capabilities.

Responsible research assessment also needs to take into consideration other dynamics, including the quality of standing of researchers, not just in terms of outputs, publications and impact, but also by the engagement of researchers with postgraduate students. This was regarded as an important consideration for the region in developing the next generation of knowledge providers, as well as generating new knowledge.

Addressing issues of unconscious bias, especially in the context of EDI, would require funding agencies to identify risks of exclusion, and develop the appropriate mitigation actions. This was viewed by the session's participants as an issue that was not unique to the Sub-Sahara Africa Region, but one which the region was in a position to share experiences and knowledge about with other Regions in dealing with such issues. Responsible research assessment processes must also be guided by transparency, which was regarded as crucial for any funding agency wanting to gain legitimacy from those that are receiving public money from it.

It was agreed that Open Science is an important emerging aspect for funding agencies. It was acknowledged however that there needs to be a system-wide approach in adopting the notions of Open Science, and moreover needs to be contextualised in a national regulatory system. There was also a need to appreciate context and acknowledge that the understanding and interpretation of Open

Science would be differentiated by agency, country or region; as well as how to preserve indigenous knowledge whilst pursuing an Open Science agenda.

The session acknowledged the need to balance research regulation for international researchers, safeguarding indigenous knowledge and enhancing intra-regional collaboration, whilst also ensuring and retaining a vibrant research culture. Engaging with the rest of the world was important, but it needed to contribute to developing the Region's science ecosystems and economies.

When reflecting on the actions required to strengthen responsible research assessment within the Sub-Sahara Africa region, a system-wide approach was agreed as the desired approach, as opposed to ad hoc models of implementation. Policy coherence at the national and regional level was therefore an important aspect in this. Funding agencies alone could not make such decisions in isolation, and outside of broader policy environments. Given the nature of the region's science and policy systems, it was important to ensure complementarity of policies across the region and co-develop a robust and enabling policy landscape across the region.

There was also a need to strengthen the capacities of research institutions within the system, to enable them to undertake responsible research assessment internally. Research performing organisations, and stakeholders within the science ecosystem more widely would need to embrace such changes and take them forward, with funders needing to engage these stakeholders before embarking on significant changes, in order to be responsive as well as accountable, and work with others to cocreate such an ambition.

Report on the Americas Session on RRA

Rapporteur: FAPESP

Organizational Aspects

DATE: 25 November 2020

Time: 13:00-16:00 Sao Paulo time

Chair: Prof. Luiz Eugênio Mello (FAPESP)

Program

Part 1: Setting the Stage.(05-10 min)

Prof. Luiz Eugênio Mello did summarize the discussions that have taken place in the previous sessions of the main the event on RRA.

Part 2: Contributions from the Participating Agencies. (05-10 min per agency)

Every one of the 7 participating agencies (CONICET, CNPq, FAPESP, NSERC, IDRC, ANID and NSF) reported their experiences on the issue of RRA.

Part 3: Discussion Round Tables.

In this third part the participants discussed and shared experiences on the following topics:

1. EDI, policy vision, and experiences in the region (20-30 min)
2. Interplay between research assessment and societal value (20-30 min)
3. How local considerations and relevance can be extended to global impacts (20-30 min)
4. Novel approaches to research assessment (20-30 min)

Part 4: Closing Remarks and Thank You (5-10 min)

Conceptual Remarks and Discussions

In this session of the report the main discussions addressed by the participants are commented. Initially an overview of some common issues is presented, followed by a specific discussion on each listed topic.

This was a meeting were representatives of CONICET, the national research agency of Argentina, NSERC, the Sciences and Engineering Council of Canada, ANID, the national research agency from Chile, the National Science Foundation of the US, CNPq, Brazil's national research council, IDRC, Canada's International Development Research Council, and FAPESP, the Sao Paulo Research Foundation, talked about the state of RRA in their agencies and raised important points regarding the topics that were discussed in the GRC RRA conference.

The meeting allowed a lively and fruitful discussion of four main topics:

- Equality, Diversity and Inclusion (EDI), policy vision, and experiences in the region
- Interplay between research assessment and societal value
- How local considerations and relevance can be extended to global impacts • Novel approaches to research assessment

The participants started by sharing the experience of their respective agencies with implementing Responsible Research Assessment practices. **One overall theme that emerged is that RRA implementation is still quite diverse among countries of the region**, as new approaches are tested and the response to them is evaluated in each context.

Among the main **obstacles to RRA implementation** that emerged from the discussion**, resistance to change** by the scientific – especially the academic – community was mentioned in all countries. This resistance is often driven by concerns regarding how to maintain quality in the evaluations. Another concern mentioned is the perceived complexity, to external reviewers, of qualitative research assessments. Finally, it was commented that, for those researchers that are well evaluated in the current system, there is little incentive to change the status quo.

Another issue raised by the participants of the Regional Meeting was the disagreement, among the research community, regarding the introduction **of mission-oriented research** in systems where **curiositydriven research** has been the norm.

Finally, some participants commented that the **cost and complexity of implementing new evaluation** and submission mechanisms in agencies that have invested heavily in their current systems was a real barrier to change.

These issues are further explored in the discussion of the main topics, as listed below.

Topic 1 concerned experiences on EDI in the Americas region.

Regarding this issue, the experience of CONICET in Argentina has been that, although women are the majority among agency researchers, they still face a glass ceiling which limits their access to top positions. CONICET has found that this gender disparity in career achievement is not related to career duration, and they are currently investigating other possible causes. In that sense, Argentina's experience provides an example that it is not enough to promote the entry of women in Science careers, but issues impacting how their careers develop must be tackled as well.

Canada's NSERC shared their experience promoting EDI, a central piece of their RRA strategy. In Canada, the funding agencies have a strong role in changing behavior in the research institutions, both by making these policies explicit in the objectives of their grant types, such as the Discovery program, and also through the training offered to their research advisory panels. Likewise, the RRA practices adopted by the funding agencies tend to be incorporated by the research performing institutions.

Canada initiatives on EDI encompasses several dimensions besides gender, such as racial, ethnic and disability issues, as well as sex orientation, with a particular focus on First Nation persons. The focus of the policies transcends increasing the representation of each group and must also include plans for making them feel included in the research environment, as well as influencing the choice of research topics.

Chile's ANID has adopted specific metrics aiming for positive discrimination in the allocation of scholarships, considering both gender and ethnic criteria. Moreover, the evaluation of publication records takes in consideration greater periods for women than for men, to allow for differences on life events, such as pregnancies or childcare. Recently, special scholarships for people with disabilities were implemented.

Canada's International Development Research Council reported that they launch calls that are specifically directed to minorities, but evaluators are encouraged to attempt to balance minority representation in their regular lines as well.

The issue of which evaluation techniques should be used to promote equity, diversity and inclusion generated an interesting debate in the Americas session. Canada's NSERC has started experimenting with double-blind analysis, as has Chile's ANID. They do not yet have definite results on the benefits of this approach. However, NSF pointed out that implementation of double-blind review would require changes to a complex and costly evaluation system, which may represent a barrier for adopting this approach.

In contrast, IDRC argued that double-blind, or even blind evaluations, fall short of assessing the quality of research. IDRC's argument is that research assessment for grant evaluation should be informed by the context in which the research is performed. Their argument is that the current standard of proposal evaluation does not measure up to the same standards of rigor as scientific research itself. The information provided by the context may be critical in choosing which applications to fund. Instead, IDRC uses blind evaluations to assess the results of the research projects that they fund.

Both NSERC and NSF include optional questions regarding dimensions such as race, ethnicity and gender in their researcher application forms. In both institutions applicants may choose to not answer these

questions. In NSF, if they do choose to answer them the information is available to reviewers. NSERC took the approach of asking this information, considered of a more personal nature, in a separate form that is not included in the main application.

Regarding implementation of a diverse basis of reviewers, NSF pointed out that such diversity is more or less possible depending on the research areas, as some areas are more diverse than others.

Topic 2: Interplay between research assessment and societal value.

Regarding this topic, IDRC highlighted that their Research Quality+ approach assesses quality multidimensionally, including, besides scientific rigor, issues such as indigenous knowledge and gender balance.

FAPESP commented that more support for mission-oriented research is often demanded by the government. FAPESP has responded to that by created both curiosity-driven and mission-oriented funding lines. FAPESP's experience with those funding lines has been that it is important to broaden the base of reviewers for mission-oriented research, reaching beyond the academic community, as the parameters taken into account in the evaluation are distinct from those used in curiosity-driven research – including patents or other productions. For instance, FAPESP's small business research program, which has been running for 20 years, required taking a different view of what is a researcher – PhDs not being a requirement, for instance.

NSF acknowledged that, despite decades having passed after the introduction of the concept of "broader impact", the research community still struggles with the concept, which is interpreted in a number of different ways.

NSERC pointed out that research impact is difficult to define. One important evaluation criteria that they consider is the training of human resources, but this criteria creates much debate in peer review panels.

CNPq suggested that the conflict of excellence and the social value of research seems like a false dilemma from the point of view of grant design – those two dimensions should be balanced in order to achieve relevant results.

IDRC concurred that this may indeed be a false dichotomy, as excellence may be defined according to the goals of the funding agency, but that implementing those goals might require defying powerful groups – of researchers, of publisher, or others.

Topic 3: How local considerations and relevance can be extended to global impact.

On this topic, ANID introduced their concept of Natural Laboratories: using local geographic characteristics of the Chilean territory to impact global science and to increase the impact of global science in Chile. The prototypic example of their Natural Laboratories is the Atacama Desert, in the Andes, whose extraordinarily clear skies have attracted astronomical interest, to the point that close to 70% of the world's astronomical infrastructure will soon be located there. Another example offered was the proximity of their territory to the Antarctic continent, providing a base for exploring that continent, which is also of global interest.

CNPq brought up a new, 2-step evaluation process that is being tested, which first looks at the scientific soundness of a proposal and then an evaluation in terms of relevance to policies.

IDRC, whose focus is development processes, has observed that, when looking at the location where research is performed, results are statistically better the closer the research activities are to the development problem being addressed.

NSERC highlighted the Canadian Councils' efforts to include indigenous researchers in research performed in their territory. Their effective participation in the research is key to ensure quality, relevant results, rather than "helicopter research".

Finally, FAPESP pointed out their experience in participating in the Global Alliance for Chronic Disease, which has a strong focus on implementation research, a typical example of science whose relevance is critically dependent on the local context.

Topic 4: Novel approaches to research assessment, permeated the whole discussion.

As previously mentioned, one topic that was repeatedly raised by most participants was the resistance of the research community to change. Although that resistance varied on the specific topic of debate as well as in its intensity, it usually encompassed questions regarding how robust and reliable new paradigms are, compared to the standards that have been in use for the last decades.

In that sense, Chile's ANID's experience may provide an example of how to handle these changes. ANID, the new national Science and Technology agency that replaced CONICYT, has reviewed many of its procedures and programs in response to a legislative mandate. One of these changes, importantly, is the introduction of blind assessment of the quality of the proposal.

In order to implement its changes in procedure, ANID reviewed international evidence, set up a framework for discussion of the changes and then embarked on extensive, local consultations with Chile's university, research community and international organizations. This process is still ongoing and ANID believes that it still has some way to go before they are able to design a roadmap for implementation.

IDRC designed a novel method for managing, and evaluating research applications, in which the context of the research is a central consideration, and which considers research quality as having 10 subdimensions. In particular, they argued that the use of the peer review system as the central feature of research assessment is a paradox, as peer review is, essentially, an opinion. For IDRC, research evaluation should incorporate multiple approaches, as does good science, and be based on empirical data.

CONICET questioned the concept of excellence, as it is even harder to define than research quality. In particular, standards used to define excellence often incorporate the international impact of research, but these same standards tend to score lower the research that has a local, regional or problem-solving perspective. As a result, it was pointed out that, if quality is multidimensional, so should be the definition of excellence.

The question of lottery allocation of funds to qualified research applications was raised for comments. The general feeling was that a lottery assessment would face great resistance from both the research community and the general public, as determining the best allocation of funds is perceived as a key funders' role. NSF pointed out, however, that their legal department did not view a lottery allocation as

non-viable from a legal standpoint, as long as the rules for the assessment and allocation process were made clear to the applicants at the beginning of a call for proposals.

Another novel approach discussed is the double-blind review, where neither the applicant knows the reviewer, nor the reviewer has access to data identifying the applicant. None of the agencies present was yet able to present the results of experiments with double-blind review, but NSF's results were the object of much interest. In particular, the observation that double-blind review resulted in a higher number of applications by women, younger researchers, and involving user-inspired research.

Finally, an interesting point raised by NSERC was that bilateral agreements are an excellent opportunity for an agency to evaluate a different research assessment method employed by a call partner.

Although this report gives only a brief idea of the fascinating discussion that transpired in the Americas Regional meeting, many of the issues raised enrich the debate in this conference, providing a clear indication of the timeliness of the topic Responsible Research Assessment.

List of Participants

Country	Agency	Participant's Name	
Argentina	CONICET	Cynthia	Jeppesen
Argentina	CONICET	Catherina	Dhooge
Brazil	CNPq	Lelio	Fellows
Brazil	FAPESP	Luiz Eugênio	Araújo de Moraes Mello
Brazil	FAPESP	Euclides	De Mesquita Neto
Brazil	FAPESP	Cristovao	Albuquerque
Brazil	FAPESP	Ana Maria	Almeida
Canada	NSERC	Danika	Goosney
Canada	NSERC	Shaun	Baron
Canada	NSERC	Karine	Morin
Canada	NSERC	Shawn	McGuirk
Canada	IDRC	Rob	McLean
Canada	IDRC	David	O'Brien
Chile	ANID	Patricia	Muñoz
Chile	ANID	Alejandra	Vidales
Chile	ANID	Catalina	Terra
Chile	ANID	Sharapiya	Kakimova
USA	NSF	Fahmida	Chowdhury

Report from the Asia-Pacific Regional Session – GRC Virtual Conference on Responsible Research Assessment (RRA)

Held on 25 November 2020
Attendees – see appendix one

This report covers the topics covered at the Asia Pacific Region at the virtual conference. The virtual conference worked well and participants are keen to further discuss this topic. While it has been acknowledged for a while that there are a lot of common problems we may not yet have the solutions so to keep talking and having these discussions is very important.

Influences that impact research assessment processes and criterion

Influences across the region had a lot more in common with each other than differences. Common themes across the funders on the influences on impact research assessment include;

- To make the best decision for the money spent – value for money.
- Research to benefit and/or relevance to the funder nation.
- Some standard approaches to assessment i.e. a focus on scientific excellence and track record.
- Having in place principles such as the GRC principles.
- Being transparent about funding processes and decisions.
- A growing recognition to include impact assessment for research.
- A growing range of funds with specific processes and criterion.

Challenges to implementing responsible research assessment

Language

Some countries have multiple languages and there needs to be acceptance that funding proposals and assessment can come from speakers of different languages. One identified issue is about how translations might impact on how well a funding proposal is reviewed. Another issue is how proposals that are translated into a common language can have an impact on rigour, fairness and transparency in all aspects of the funding process. Sometimes translations may not be accurate.

International peer reviewers

In some countries there are not a lot of local peer reviewers and there is a greater reliance on international peer reviewers. When international peer reviewers are used it is not clear how much local context they have and what the impact of this has on their peer review. Proposals in English have a wider system of peer reviewers.

Equity

Each funder has its own challenges and how inequity plays out depends on what can be unique in each country e.g. geography, gender or ethnicity. Some funders set aside specific amounts of funding to enable different groups to participate.

Some funders are have set aside funds to encourage early career researchers, identified by most countries as 7-8 years post PhD. One funder has a fund that has a preferential policy for female researchers and dependent on the programme the age limit could be extended for female researchers, which would take account of career breaks.

Feedback

There are a variety of ways that funders handle feedback to applicants. Feedback can be a sensitive issue and it is widely acknowledged that if can be hard to provide constructive feedback. Feedback can range from just providing a ranking through to fuller feedback such as the original peer review feedback. Giving direct peer review feedback can lead to applicants wanting engage in discussions about why they were not funded when they don't necessarily agree with the feedback.

One funder gives targeted feedback on proposals that just missed funding rather than those that were funded or were not acceptable to fund. On the other hand one funder gives feedback on all proposals – this is a lot of work but it builds trust with the sector and is seen as important for transparency.

Often feedback given is not considered enough and funding agencies are asked for more meaningful feedback to understand why a proposal was not funded or to improve future proposals.

Conflicts of interest

Where there is a limited pool of local peer reviewers there is a higher chance of a conflict of interest *Some*

country specific issues

Some countries had unique issues including:

- Researchers from different nationalities in a funding proposal can lead to a lack of acceptance from local researchers and this can impact whether a proposal is fundable or not.
- It can be hard to build trust between industry and researchers when research is a new concept to industry. This can mean industry are not interested in applying the research or see the need to have a stake in the research through support such as co-funding.
- Where there isn't a level playing field for applicants there is an identified need to provide resources for applicants to be able to develop sound coherent proposals.

How do funders support RRA in criteria and practices in research organisations?

Across the region there were a range of ways that funders are using to improve current practices. There are many ways to communicate criteria and practices. This can include clauses to enforce RRA in contracts through to providing expectations in guidance for all research organisations that might have either funding already in place or for future funding. This can help support capability to do research the

right way. One funder is embarking on capacity and competency building for researchers, reviewers and editors with a digital platform to harness expats to support academics and industry. The intent is to help create impact and focus on goals more effectively. Another funder is connecting users of research to research organisations.

Some funders have an emphasis on preventing misconduct in research and one funder has put in place greater checks and balances on the misrepresentation of research and possible fraudulent applications.

Some funders use reviews and surveys to make improvements to the system. Input from researchers and peer reviewers is important to help improve all aspects of RRA. This helps promote transparency, rigour and trust across the funding system.

One observation was that younger researchers are less focused on results and more focused on the impact of research than citations and therefore seek a wider engagement with all stakeholders in particular those that might use the research.

One funder is using its expat network by developing partnerships to strengthen internal research.

Impact

This is hard and as one funder noted they ask for a report 5 years after the contract is completed and are moving to a 10 year post contract report. This takes a lot of effort and is expensive. Another funder invited a third party to review their programmes to see if the expectations set out in each programme were met.

Across the region there are various methods that contribute to demonstrating impact, including;

- Publishing case studies
- Using a special evaluation committee with international experts – important to use impact experts
- Benchmarking metrics like bibliometrics
- No of patents, licences etc
- Self-evaluating of performance each year
- Five years after a project has completed a questionnaire is sent and asking about research, publications, commercialisation and patents
- Qualitative reviews
- Tracking the performance of projects through progress reports and contract monitoring
- Evaluating outcomes for each completed project
- Reviewing organisation performance

Promoting an equitable, diverse and inclusive culture

In line with the Gender Working Group there is a desire and some actions taking place to improve equity, diversity and inclusion.

Each country has its own challenges and how inequity plays out depends on what can be unique in each country e.g. geography, gender or ethnicity. Some examples have been outlined in the challenges including setting aside specific amounts of funding for groups that might normally be disadvantaged so that they can participate in applying for funding. Another example from across the region is the strong desire to encourage early career researchers, typically 7-8 years post PhD seems. To support highly promising early career researchers a number of funders have schemes in place.

Some funders identified that peer review panels are becoming more diverse. One example of achieving this has been by having at least 50% of the membership of Panels coming from underrepresented groups.

One funder has a commitment to its indigenous people where they commit to reflecting the percentage of the indigenous population throughout the system and to increase participation. Another funder has set aside 20% of its funding in one programme directed towards female researchers.

Some other actions that could be taken include:

- Embedding diversity considerations or requirements across processes
- Providing unconscious bias training for peer reviewers

Other topics

There were are few other comments and topics discussed that are worth mentioning. These include;

- The use of AI, while not a proven technology yet some funders are using the approach to help identify and select peer reviewers as this is very time consuming when done manually.
- Getting researchers to partner with those who use the research is another challenge – if you fund research that people want to use it will get used

Appendix One Attendees

Chair: Dr Prue Williams, GM Science System Investment and Performance, Ministry of Business Innovation and Employment (MBIE), New Zealand

Ms Sarah Howard, Branch Manager (Research Excellence), Australian Research Council (ARC), Australia

Professor Li Jinghai, President National Natural Science Foundation of China (NSFC), China

Professor Zou Liyao, Director General of Bureau of International Cooperation, National Natural Science Foundation of China (NSFC), China

Dr Susumu Satomi, President Japan Society for the Promotion of Science (JSPS), Japan

Mr Mitsukuri, Japan Society for the Promotion of Science (JSPS), Japan

Ms Koma, Japan Society for the Promotion of Science (JSPS), Japan

Kaneko Hiroyuki, Director, Department of Strategic Basic Research, Japan Science and Technology Agency (JST), Japan

Kobayashi Osamu, Director, Department of International Affairs, Japan Science and Technology Agency (JST), Japan

Dr Michinari Hamaguchi, President, Japan Science and Technology Agency (JST), Japan

Dr Du-Young Park, National Research Foundation of Korea (NRF), Korea (may be delayed)

Professor Ranjith Senaratne, Chairman National Science Foundation (NSF), Sri Lanka

Dr Mahesha Nadugala, Head, Research and International Affairs Division (NSF) Sri Lanka

Prof. Rajith Senaratne, Chairman (NSF) Sri Lanka

Thilinakumari Kandanamulla, Scientific Officer, National Science Foundation (NSF), Sri Lanka

Mr Payam Parsizadeh, Director of Science Diplomacy, Iran National Science Foundation (INSF), Iran

Mr Dudi Hidayat, Acting Head Research Center for Policy and Science (LIPI) Indonesia

Karen Tan, Director, Grant Management, National Research Foundation (NRF), Singapore

Ms Joanne Looyen, Manager Service Design and Reporting, Ministry of Business, Innovation and Employment (MBIE), New Zealand

Ms Nicola Jenkin, Senior Investment Manager, Ministry of Business, Innovation and Employment (MBIE), New Zealand

Summary of GRC Europe Regional Session, of the GRC virtual Conference on Responsible Research Assessment, held on Thursday 26th November 2020

Chaired by Professor Mark WJ Ferguson

Director General Science Foundation Ireland and Chief Scientific Adviser to the Government of Ireland

Before starting it is useful to think about where metrics come from and why we use them. Historically, decisions were usually made on qualitative knowledge of the person in question and while this may have had useful attributes, it did give rise to some poor outcomes and cultures such as 'the old boys network'. To counter that, efforts were made to introduce more objective criteria, preferably quantitative. Numbers of publications was the initial metric which gave rise to a boost in scientific publishing. To emphasise quality over quantity, additional metrics were introduced, such as preference for publication in peer reviewed journals, publication in journals with high impact factors, citation indices etc. At some point, the surrogate, i.e. the metric, was in danger of becoming the endpoint, e.g. the quality of the journal in which the research was published was more important than the findings of the research. In parallel, with this came cultural changes, some beneficial, e.g. increased efficiency, focus and competitiveness and some adverse, e.g. hyper competitiveness, bullying, neglect of important areas that are not measured, e.g. mentoring, outreach, public policy, scholarly synthesis etc. So that is the situation we are currently addressing and the challenge will be to keep or modify metrics of value but to broaden the scope and introduce new measures to recognise important outputs. Funders are one actor in this system but there are others, most notably the procedures in place for hiring and promoting staff in Higher Education Institutions (HEI's) and Research Institutes. Trying to harmonise between funders and HEI's will be important. Funders, particularly in Europe, should experiment with new metrics, measures and procedures, discuss the outcomes and learnings with other funders and then hopefully agree a best practice common approach going forward. In this regard, the European region has some special features, largely because of the major role that the European Commission plays in competitive research and innovation funding in both Member States and beyond. So we want to come together at a European level but we also want to come together at a global level and that is where the GRC has a really important role. If we can agree after doing some of this experimentation, about some common objectives and methodology, that would be terrific for the global research system. In Europe, the ERA, i.e. the European Research Area is an opportunity for us to come together. Clearly within the funders there are tensions between institutional funding versus project funding and some funders do both, they fund both institutions and projects. Obviously there is also the whole open science movement, Plan S for open publication and then open science data.

One thing that came up in the discussions was the survey from the European University Association about CV format and content and how to assess people in Universities, for appointment or promotion. Their criteria included; the journal impact factor and peer review but also collaboration within academia, contribution to open access, collaboration with industry and collaboration with the rest of society. To that you could add other stuff like mentoring and how you bring other people along. So this is about a redefinition of excellence, it's about replacing a narrow definition of excellence, ad absurdum, the journal impact factor, with a broader definition of what we mean by excellence. If you look at the funders, they fall into roughly two camps, there are those who are quite conservative and there are others who are revolutionary. We came to the view that we really wanted a collaboration 2

or collation of those who are willing to reform, to do experiments, to come up with different things, to compare practice and then to think about a good way forward, with balance within the system. Now despite our best intentions, we all know that measures such as impact factors will still be used informally by some reviewers, particularly by postal reviewers, or ad hoc reviewers, where you're doing a single review. The funder has a reasonable chance of influencing reform at a panel, by the careful selection of the panel, by making sure there is a good diverse panel in terms of gender, disciplines, different experiences and so on, by carefully selecting the chair, by careful briefing, but the ad hoc or individual reviewer clearly needs to be looked at. There are ways in which embedding more widespread reform has been attempted. For example, in some of the universities in Ireland, people have converted the new language into the old language – what do I mean by that? They have made statements, like for promotion, an issued European and US patent is valued by our university as the same as two publications in Nature (for example). So, there are different approaches to try to embed widespread reform.

Good panels are really important – I've mentioned that earlier and it's really in those panels to focus on paying attention to what the individual panel members say and making sure that they own the decision and are not going on averages. We had quite a lot of discussion about how panels could operate and particularly how you could identify proposals that were at a breakthrough level. So of course disciplines are different, for example, some disciplines have a much longer time to impact, in terms of citations, mathematics, maybe about 8 years, compared to other subjects like life sciences, which can be measured, maybe even in months. So that needs to be taken into account. When you are assessing an interdisciplinary area, the experience is that reviewers tend to be very conservative, particularly if they tend to feel uncomfortable, and they often feel uncomfortable in these interdisciplinary areas so then they revert to a more conservative approach, particularly if funds are scarce. And the same things apply to high risk, high gain research - if funds are scarce, people tend to revert to a more conservative review. There are ways in which that can be addressed. We heard of very interesting experiments – we heard for example that Norway had introduced the criteria of 'boldness' as an assessment criteria, in an attempt to try to select some of those high risk, high gain projects. We know that the Howard Hughes Institute, for example, look for where there is a very big divergence between the reviewers, e.g. where one reviewer thinks it's fantastic and one thinks it's rubbish – and they believe those are often very interesting proposals. We heard of experience from Poland and the Czech Republic, where they have harnessed that and they do a staged review where they look for those extreme reviews and they ask those people to come into the third final stage of the process and very often they are successful. Then if you look at the review of the European Innovation Council, where they investigate 2 or 5 years after the end of a funded project whether that resulted in breakthrough scientific results or not and compare the outcomes with the initial assessment rankings. What they find is that there is absolutely no correlation between where those projects were ranked on the fundable list and the subsequent outcome / impact. What that tells you is that there is little difference between the rank order of the fundable projects and it is actually quite difficult to pick out high risk, high gain projects from conventional peer review. This is similar to the findings of Michael Lauer of the NIH in the US, who found something similar when he reviewed the performance of their programmes, he concluded that conventional peer review was good at telling you what to fund, but not the priority of the fundable list as the order in which the projects were ranked within the fundable list bore no correlation to the subsequent outcome. Then we had a good discussion about how that could be addressed. We heard about experiments with lotteries, for example the VW Foundation in Germany, funding the best proposals, discarding those that are 3 deemed not fundable and allocating those in the middle randomly by a lottery. We heard from Austria's One Thousand Ideas programme, where again they reject the non-fundable applications but then they divide the fundable ones into two groups and half of them they rank with a conventional panel and fund those they have budget for, in

priority order, and half of them they put into a lottery and fund randomly up to the budget. They will follow and compare the outcomes in the two groups. I think that is an interesting experiment. We then talked about how some of the best groups who were funded reach a peak, so the Dutch have done an interesting study where they have shown that if you increase the funding to very good groups, you get an increased output but then it plateaus, and increased funding beyond that doesn't give you any increased efficiency or output, there is a kind of inflection point in the sigmoidal relationship where you don't get increased value.

So, looking then at the impact of funders, how do funders assess their own impact and assess what they are doing. We discussed a number of things. We thought that it was quite interesting to ask the question, what is the value of the funder – if you were just to take this money and allocate it straight to the University system, for example, without any funder, would you get the same or a different result than if you used a funder, because clearly if you got the same result, you shouldn't be doing that as you've just inserted a whole lot of bureaucracy and cost for nothing. So a number of countries, including Ireland, Norway, Holland, the Czech Republic and others have looked at the citations of research that the research funders fund by comparison with citations of research that they don't fund in their country. They all show that there is a much higher citation rate of the work that is funded by competitive research funders than those who are getting baseline funding. There is also a much higher number of papers in the highly cited percentages, e.g. top 1% or top 10% from the funders group. So that at least suggests that the funders are making a difference but of course that is a slightly unfair comparison because some of the baseline funding that goes into the universities is required to give you a base from which you can move forward to support competitive funding. Criteria for assessing baseline funding probably need to be broader than those for project-based funding. Baseline funding may need to address things like geography and place and that is becoming increasingly important in countries like the UK. So institutional funding and project-based funding may require different assessments and metrics. The discussion then progressed to considering, for example, if we were developing DORA compliant CVs, if we were having a broader assessment of research, if we were pushing open science and open publication. We noted the difference between funders encouraging people to do something, sending signals through the system which is what we are tending to do at the moment, versus enforcing compliance. Are funders really going to enforce compliance on e.g. open publication?

Then finally we talked a little about some experiments we are doing – in Science Foundation Ireland we have developed a DORA compliant CV, we are asking people to do different things, for example to tell us about their top 3 or 5 publications and tell us why they are proud of those and why they consider them their most important publication, we are asking applicants to tell us about things like mentoring, engagement with industry and engagement with policy and society and to evidence that. SFI have done experiments, for example, where the applicant can say whether they are an emerging investigator, e.g. someone who has come back after a career break, or who is new to academia from a background in industry, and there the weighting the reviewers apply will be more on the project and less so on the track record of the individual, and the reverse for someone who is quite experienced in academia. SFI have also done a number of interesting experiments to achieve greater balance in gender.

One of the things that a funder of science needs to have is a diverse portfolio of uncorrelated risk. What that means is that you have individual programmes that have different objectives, some of them are about making breakthrough blue skies discoveries, some of them are supporting industrial collaborations, some of them are supporting international collaborations, some of them are about training PhD students etc. Each of these individual programmes will have individual assessment mechanisms based on the objectives

of the programme but collectively they make up a portfolio of diverse objectives, which give you the research ecosystem that requires all of these various components. That is important, it is important to have good assessments of the programmes and then good assessment of the portfolio of programmes - is it the right mix for that particular time and that particular country.

So that is a summary of a broad ranging discussion and I will finish by giving a personal view. One of the things that I personally am very fond of doing when I meet researchers is to ask them 3 questions and those questions are; What have you discovered/invented?, Why is it important? and What have you done about it? When you hear the narrative - the answer to those 3 questions, you are a long way towards understanding the importance and the impact of that area of scientific research and also the contribution of that particular researcher. Similar sets of questions are also used in project selection – by DARPA, where there is Heilmeiers Catechism, which is a series of questions about how to assess a project - it's almost like a gospel, that's why it's call a catechism – in DARPA for assessing projects. The overall message is that we will have broader criteria and that those criteria will include some more qualitative judgements, about wider contributions, as we have seen for example in COVID-19 with the contribution to evidence for government policy, and new ways of working, forcing issues like open science and open publication, forcing issues like having a better culture, more gender balance and so on. There are obviously going to be different ways of doing this but we are on a journey and we can learn from each other – we can learn from each other both within Europe and globally and then hopefully we will come to some sort of consensus as to what would be a reasonable way of doing research assessment, both for university promotions and appointments and also for assessing and funding competitive research proposals, on a global basis. That is the journey that we are all on, I hope the European group have made some small contribution to that and we look forward to hearing what the other regions have to say.

The GRC-MENA Closed Regional Session on the Responsible Research Assessment (RRA)

Agenda, Participants, and Final Outputs

25/11/2020 (13:00-16:00 Riyadh Time)

Contents

Message from Chair of the Session

Good afternoon distinguished colleague's representatives of the funding organizations in the MENA region.

I am delighted to welcoming you all to this virtual closed MENA regional session on Responsible Research Assessment (RRA).

Although there is, no agreed definition of the RRA, the RRA has been envisaged as:

- An umbrella term for assessment approaches, that incentivize, reflect, and reward the plural characteristics of high-quality research, in support of diverse and inclusive research cultures.

- A process to encourage funding agencies and research institutions and others to emphasize the fundamental aspects of methodologies, eco-systems, and cultures of research assessment process and criteria.
- A relational concept that an important feature of any responsible assessment process and criteria are their sensitivity to local and particular contexts.

In the context of the RRA conference discussion themes, namely:

- Funders' research assessment criteria and processes ○ Funders' assessment of their own performance ○ Funders' influence on research organizations' assessment criteria and processes.

the closed MENA region session will focus its discussion on the regional considerations and sensitivities in Responsible Research Assessment (RRA) criteria and processes, aiming to share experiences, to exchange views and expertise, and ultimately to reach common ground views about the Responsible Research Assessment (RRA).

For your convenience, the structure of this session contains three main breakout discussions on the following themes:

- The current drivers, which impact research assessment criteria and processes.
- The challenges of implementing responsible research assessment criteria and processes.
- The medium- and long-term actions, which funders could take directly and indirectly to support responsible research assessment criteria and practices in your funded organizations.

Representatives of each participating organization in this session are welcomed to share their views and experiences about his/her country/

organization on the theme of each breakout discussion within 8 minutes each.

I thank you again and I look forward to having a successful discussion and productive outcomes.

Anas F. Al-Faris Ph.D.

The GRC Governing Board Member

MENA Region.

Introduction:

A close MENA regional session on Responsible Research Assessment (RRA) was organized on Wednesday 25th November 2020 for about 3 hours. The session was chaired by Dr. Anas F. Al-Faris the president of King Abdulaziz for Science and Technology (KACST) - the GRC Governing Board Member- MENA Region, and participated by the distinguished representatives of five key national funding organizations in the region, namely:

1. King Abdulaziz City for Science and Technology (KACST) of Saudi Arabia.
2. The Academy of Scientific Research and Technology (ASRT) of Egypt.
3. The Research Council (TRC) of Oman.
4. Kuwait Foundation for the Advancement of Sciences (KFAS).
5. Qatar National Research Fund (QNRF).

In the context of the RRA conference discussion themes, the closed

MENA regional session focused its discussion on the regional considerations and sensitivities in Responsible Research Assessment (RRA) criteria and processes.

Throughout this session, the distinguished representatives from the funding organizations in the region fruitfully have shared their experiences, exchanged views and expertise about the RRA through three breakout discussions, namely:

1. The current drivers, which impact research assessment criteria and processes.
2. The challenges of implementing responsible research assessment criteria and processes.
3. The medium- and long-term actions, which funders could take directly and indirectly to support responsible research assessment criteria and practices in your funded organizations.

This report highlighted briefly some of the main views, thoughts, and outputs of this session.

Last but not least, the chair of the session on behalf of all distinguished participants is faithfully thanking the organizers of the session, mainly, the GRC, UKRI, the NRF of South Africa, and the UK Forum for Responsible Research Metrics.

Participants List

	Participant Name	Organization	Country/Affiliation
1	Dr. Anas Al-Faris	King Abdulaziz City for Science and Technology (KACST), President	Saudi Arabia, Chair, GRC – GoB. Member, MENA Region
2	Dr. Abdulaziz Almalik	King Abdulaziz City for Science and Technology (KACST), Vice President for Scientific Support	Saudi Arabia
3	Dr. Ahmad Al-Abdulkader	King Abdulaziz City for Science and Technology (KACST)	Saudi Arabia, GRC-ESG, MENA Region
4	Dr. Maha Khayyat	King Abdulaziz City for Science and Technology (KACST)	Saudi Arabia, GRC-GWG

5	Dr. Malak Althagafi	King Abdulaziz City for Science and Technology (KACST)	Saudi Arabia

	Participant Name	**Organization**	**Country/Affiliation**
6	Dr. Mohamed Alfageeh.	King Abdulaziz City for Science and Technology (KACST)	Saudi Arabia
7	Dr. Gena Elfeky	Academy of Scientific Research and Technology (ASRT)	Egypt
8	Dr. Essam Al-Syed Omar	Kuwait Foundation for the Advancement of Sciences (KFAS)	Kuwait

9	Dr. Maitham Safar	Kuwait Foundation for the Advancement of Sciences (KFAS)	Kuwait
10	Eng. Dina Alnakib	Kuwait Foundation for the Advancement of Sciences (KFAS)	Kuwait
11	Dr. Mohammed Al-Ramadan	Kuwait Foundation for the Advancement of Sciences (KFAS)	Kuwait
	Participant Name	**Organization**	**Country/Affiliation**
12	Dr. Sharifa Al Harthi.	The Research Council (TRC)	Oman
13	Dr. Omar Al Abri.	The Research Council (TRC)	Oman
			Oman, GRC-GWG

14	Dr. Maryam Alnabhani	The Research Council (TRC)	Qatar
15	Dr. Hisham Sabir	Qatar National Research Fund (QNRF)	

GRC Closed MENA Regional Session Agenda

25/11/2020 (13:00-16:00 Riyadh Time)

Session Chair: Dr. Anas Al-Faris – President of KACST, and the GRC – Governing Board Member – MENA Region).

Session rapporteur: Dr. Malak Althagafi – KACST

13:00 – 13:10	- Welcoming remarks - Short introduction from the chair of the session	Dr. Anas Al-Faris

Main Theme of the session: What are the regional considerations and sensitivities in implementing responsible research assessment (RRA) criteria and processes?

Breakout discussion I: What are the current drivers, which impact your research assessment criteria and processes? (13:10-13:55)

a) Who are the relevant stakeholders in the regional ecosystem? What is their influence and interest in RRA?

b) Draw out the top five drivers in your region for the approaches currently used.

c) How have EDI and diversity considerations influenced your research assessment criteria and processes?

13:10 – 13:18	Dr. Abdulaziz Almalik, Dr. Maha Khayyat KACST, Saudi Arabia

– 13:18 13:26	Dr. Mohammed Al-Ramadan Kuwait Foundation for the Advancement of Sciences (KFAS)
– 13:26 13:34	Dr. Maryam Alnabhani The Research Council (TRC), Oman
– 13:34 13:42	Prof. Gena Elfeky Academy of Scientific Research and Technology (ASRT), Egypt.
– 13:42 13:50	Dr. Hisham Sabir Qatar National Research Fund (QNRF)

- 13:50 13:55	Concluding remarks

Breakout discussion II: What are the challenges of implementing responsible research assessment criteria and processes? (14:00 – 14:50)

a) What actions could funders feasibly take to overcome these challenges?

b) What medium- and long-term actions would help you to address these challenges?

c) What challenges regarding EDI considerations do you face in your criteria and processes? What are the key barriers that prevent this from occurring?

14:00 – 14:05	introduction from chair of the session
14:05 – 14:13	Dr. Mohammed Al-Ramadan Kuwait Foundation for the Advancement of Sciences (KFAS)
14:13 – 14:21	Dr. Maryam Alnabhani The Research Council (TRC), Oman
14:21– 14:29	Prof. Gena Elfeky Academy of Scientific Research and Technology (ASRT), Egypt.
14:29 – 14:37	Dr. Hisham Sabir Qatar National Research Fund (QNRF)

– 14:37 14:45	Dr. Abdulaziz Almalik, Dr. Maha Khayyat KACST, Saudi Arabia
– 14:45 14:50	Concluding remarks

Breakout discussion III: How could your funding agency directly or indirectly support responsible research assessment criteria and practices in your funded organizations? (14:50 – 15:55)

a) What are the medium- and long-term actions, which funders could take?

b) What opportunities exist to strengthen EDI considerations in your criteria and processes? What can funders do to incentivize inclusive, open, and safe environments, which promote an equitable, diverse, and inclusive culture?

c) How do funders demonstrate their impact?

14:50 – 14:55	introduction from chair of the session
14:55 – 15:03	Dr. Gena Elfeky
	Academy of Scientific Research and Technology (ASRT), Egypt.
15:03 – 15:11	Dr. Hisham Sabir Qatar National Research Fund (QNRF)
15:11– 15:19	Dr. Abdulaziz Almalik, Dr. Maha Khayyat KACST, Saudi Arabia
15:19 – 15:27	Dr. Mohammed Al-Ramadan Kuwait Foundation for the Advancement of Sciences (KFAS)
15:27 – 15:35	Dr. Maryam Alnabhani The Research Council (TRC), Oman

15:35 – 15:43		Concluding remarks

Closing remarks:

15:43 – 15:55		Closing remarks by the Chair

Main Views, Thoughts, and Outputs of the Session Breakout Discussion I: What are the current drivers, which impact your research assessment criteria and processes?

- Merit/Novelty /innovation
- Impact (social, economic)
- Capacity building
- Research strategy and innovation strategy /National priorities - Adoption of the best practices globally.
- challenge need to be tailored.
- Focus on funding projects that are relevant to national development
- Market pull approach to address the market need

Who are the relevant stakeholders in the regional ecosystem? What is their influence and interest in RRA?

- Technical innovation and entrepreneurship (incubators/accelerators)

- Policymakers, who set the national research agenda, enforce good governance, and assess the health, performance, and impact of the NIS.
- Funders provide the roadmaps and funds to fit within the national agenda
- Research performers: Institutes and researchers undertake research activities
- Publishers and other knowledge disseminating platforms - Public, Private, and third sector.
- NGOs

How have EDI and diversity considerations influenced your research assessment criteria and processes?

- Inclusion of all capable research-related members regardless of their gender, age, institutions, disabilities. etc.
- Necessity not luxury
- A core value in all countries
- Program in different organizations according to their culture
- Overcoming obstacles/women specific fellowships program
- Look at research output
- Equal opportunity and inclusion are also a very important factor as well as paying special attention and focus on early career researchers, including devising research capacity building program to help the young researcher to develop and enhance their research skills

Breakout Discussion II: The challenges of implementing Responsible Research Assessment criteria and processes.

- No agreed consensus on RAA definition, criteria, and processes.
- Lack of impact / low impact
- Lack of funding /resources
- Lack of sustainability/ mainly governmental funds/absence of private sector involvement and contribution.
- lack of appreciation/ lack of trust/ lack of investment in local talents development
- Lack of engagement of stakeholders.
- The bureaucracy associated with updating regulatory frameworks incentivizing current approaches and behaviors.

- Limited interaction with other stakeholders in the planning, assessment, and evaluation processes.
- Research impact is hard to demonstrate efficiently.
- Assessing different fields is challenging, given the diversity of R&D and the cultural aspect of the country.
- Retention of RDI staff, lack of "stakeholding culture" and scarcity of research staff (PDFs, RAs, etc.)

Breakthrough Discussion III: How could your funding agency, directly and indirectly, support responsible research assessment criteria and practices in your funded organizations?

What are the medium- and long-term actions, which funders could take?

- Update criteria and processes to demonstrate the RRA relevance within the national context.
- Fast track regulatory updates and/or delegate authority to research funders to amend RRA practices as they see fit for the cause.
- Engage stakeholders in local RRA criteria and process set. - Adopt an aggressive and consistent approach to demonstrate impact through studies and other tools.
- Develop tools to assess the diversity, give the less mature fields some consideration, performing evaluations.
- Bilateral collaboration between countries/ Industries/ co-funding/ cost sharing/ Joint funding.
- Assess the potential of a project to predict the impact
- Engagements of stakeholders

- Demonstrate the impact
- Develop strong advocacy for science education and scientific culture.
- Enhance and integrate Research and Development capacity to address national development priorities.
- Support innovation and assist in developing the required link to commercialization within a framework of an integrated Science, Technology, and Innovation System.
- Support the development of the private sector's scientific and technological capacities and participate in building a knowledgebased economy.

What opportunities exist to strengthen EDI considerations in your criteria and processes? What can funders do to incentivize inclusive, open, and safe environments, which promote an equitable, diverse, and inclusive culture?

- Multiple initiatives dedicated to women, challenges of EDI
- Building post-doc programs for women/training programs for youth
- By law, the EDI is a must in some countries
- Promote a special program to increase the number of females in incubators/accelerators to increase SME owned by women
- The EDI is not to seem a problem in many countries
- Manpower injects young researchers along with the experts effectively in research & opportunities (not scarifying research excellence). Manpower injection: young researchers along with the experts them effectively in research & opportunities (not scarifying research excellence).

- Equal opportunity and inclusion is also a very important factor as well as paying special attention and focus on early career researchers, including devising research capacity building program to help the young researchers to develop and enhance their research skills.
- Provide training opportunities for young graduate opportunities to work in international research and academic institutions.

How do funders demonstrate their impact?

- IP related commercial impact
- Monitoring offices / ensuring progress

- Building Capacity impact- HR
- Improve the culture of research
- Enablement of stakeholders
- Mandating RRA criteria on research assessment exercises for research funding; ensuring funded organization compliance, implementation, and adherence to the funders criteria
- Progress and technical reports, periodical visit
- Different economic models/ system dynamics
- Establishing transfer technology offices (TTOs) to move research studies or prototypes to industry.
- Review the output of the funded program, to judge the impacts by involving the funding agencies
- Establish innovation parks
- The leverage of government investment due to organizations had a good impact, such as projects providing sufficient energy to operate domestic and industrial units along with the grid efficiently. Furthermore, demonstration projects in general are effective tools for decision-makers to deploy technologies on a wider scale.

Session Conclusion:

It was clear from the deliberation at the session, that there has been a convergence among the participants' views about the importance of the Responsible Research Assessment (RRA) and the need for further indepth discussion among the research funding organizations in the MENA region to set clear criteria and processes of the RRA that suit the regional culture and aspirations.

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