Summary of RRI-Practice Advisory Board recommendations

Consortium meeting Sept 21st 2017, Berlin

This is a summary of the input we received from the Advisory Board in a consortium meeting in Berlin, September 21st 2017. Following the individual presentations, there was a session where the Advisory Board and the consortium discussed some of the issues that were brought up in the individual presentations. The following three issues came out as particularly important in the discussion; a) the stated need for focusing on a transformation of the science system; b) to what extent the project needs to delve deeper into the different national cultures, and c) how to conceptualise the value proposition(s) of RRI.

The consortium has continued to discuss the input from the Advisory Board and has published a short response note where the project's stance on some of the key issues has been outlined.

We warmly thank each Advisory Board member for his/her time and advice.

Jan Staman

- RRI-Practice is an important project.

- The project should give a contribution to H2020. The ambitious EU objectives on science in society are not being achieved in Horizon 2020. What should the European Commission do to achieve them? This has to do with the future of financing of this kind of Science-in-Society projects. The Key Performance Indicator (KPI) for SwafS is the number of instances of sustainable institutional change implemented towards RRI. If the KPIs for SWAFS are not achieved, scholars and practitioners in our field have a problem. The project's contribution should be more than saying that it's not enough money; it should provide guidelines for improvement.

- Is organisational theory the right approach? What is RRI about, and – correspondingly – what science do RRI studies belong to? It belongs to the turmoil of science in transition; the grand challenges; developments all over the world where science is shaking. The leaders don't understand this, but everyone else does. Citizens don't believe that science and innovation contributes to solving wicked problems. We thus need a theory of science in transition from the cold neoliberal view on science to a new view. We should advice the EU on what a program for grand challenges might mean. A new theory of transition of R&I is more important than an organisational approach.

- You find RRI in only 10 % of research projects and we need a theory of how it can be more broadly applied. The EC thinks it will be contagious – spread by itself -, but it won't.

- Don't believe that the universities are the places for RRI; the companies and governments are. In RRI the leadership should not be on the side of the scientists, because they are isolated and don't belong to the normal world. For instance, innovation and social change does not come from research. We should give the EC an analysis of the power of these other actors, rather than the universities.

Krista Varantola

Krista spoke mainly from the research integrity and university angle. She started by stating that RRI-Practice is a beautiful but daunting project, trying to incorporate so many aspects. Integrity is one aspect, but many issues cut across the keys. She had the following advice:

1. Avoid being a debating club. Keep the discussions to the point. Keep the co-workers on a string in a friendly way. Be clear on what are the central issues; make decisions about scope: settle on an understanding of concepts.

2. Benefit from the work that has already been done, for instance on research integrity. The new ALLEA Code of Conduct on research integrity now addresses a broader audience, for instance industry, governments and funding agencies. It describes good research practices and bad. The main aim of RRI is perhaps good reliable research that benefits society. There are mechanisms that work against good aims, like competition, government and EU incentives, quantitative indicators, new public management, etc.

   Such mechanisms affect the behaviour of individuals and institutions.

3. Agree on what we mean by science. It should be all disciplines; the social sciences and humanities must be included for solving societal challenges.

4. Trust is crucial for the advancement of knowledge. We need to rely on self-regulation of academia, but it must be monitored. We don't want excessive bureaucracy. RRI is good, but will be implemented differently. This could lead to a harmonisation of the concept, but with different implementations. A great deal of realism is needed; what can be monitored, where can you have guidelines?

René von Schomberg

RRI is an agenda for transformative change. There is a need for changing the organisation of the science and innovation systems. What matters is not what impacts science and innovation might have, but how the impacts come about in the first place; how we organise R&I. There is a clear market failure. The innovation systems do not deliver what we expect. For instance, they might bring medicines with enormous profits for some actors, but not for society. RRI is not about whether an individual actor is responsible enough. It's about changing the system so that individuals can be responsible if they want. Now it is the case that sometimes individuals cannot be responsible, even if they want.

2 major challenges:

1. We must reorganise science, reorient science as to what it can deliver. It is not only process based, it also has a direction. Science should deliver goods. RRI presupposes a reality that is increasingly becoming an exception. RRI is a more demanding notion than Open science, but they are related and you should relate to this. Open science should not be reduced to Open Access. It is much more radical process; a transition process that involves all aspects of the R&I process. The point is to share knowledge as fast as possible, not to publish as fast as possible. Reward systems need to be reconsidered to promote open science. What we want is a radical open science; better science that delivers better quality of impacts.

   o Example: The Structural Genomics Consortium. They have brought in more than 12 cases to clinical trials in 6 years and demonstrated success in new areas with societally desirable impacts. They organise science in a completely new way. It is not publication oriented; instead they want to share knowledge as fast as possible.

o Another example is the Aurora network that has changed incentive systems.

It would be a pity if you missed these kinds of examples. You must relate to a broader understanding of RRI as a transformative agenda to make science more open.

Note that RRI is about organising co-responsibility and institutional change. The funders are change agents. The scientist are opportunistic; they do anything where the money goes. So please advise the funders in how to organise for co-responsibility and institutional change. In the run-up to FP9 we want to make 50% of next FP completely open – radical open science; your input to how to achieve this is welcomed.

2. The 6 pillars can be a strong weakness if they are taken as a factual thing. It means that we go back in time, instead of ahead. We must move beyond them and certainly not split them up. They must be transformative. The keys can be interpreted transformatively, - but we must make sure that we treat them in a transformative way.

What are best practices? We don't have RRI; how can there be best practices? But we can provide examples of transformative change. If so, the project could be helpful for FP9 and we should try to contribute.

There are two notions in the project that can help: the focus on leadership and the focus on RRI as a development process (from the keys, to the AIRR dimensions, and potentially to transformative change). There must be a new kind of leadership in the science and innovation systems, acknowledging the need for transformation.

Gong Xu

A Lesson from Historical Study:

- Moving beyond impact-response paradigm (a rational approach?) for history of modern China

- Discovering the China-centered history of China and its internal evolutionary trajectory (a natural approach?)

- Multidisciplinary studies reveal more hidden "facts and values" (an open system approach?)

How to Discover RRI in China

- Moving beyond dichotomy of RRI: the west and the east, north and south, the borrowed and native, tradition and modernity, etc.

- Discovering policy keys of RRI in China instead of EC keys through back to AIRR dimensions, even to the philosophy of RRI

- Multidisciplinary and comparative studies will be very helpful.

Gender Equality or Diversity

- NSFC has implemented a package of policy measures to promote women scientists' career development since 2010.

- While these measures had positive effects on women in the first 3-5 years, it seemed that there is a glass ceiling of the policy itself for its continuous and further impacts.

- Women are not the only under-represented scientific group in China, scientists, esp. young scientists, in non-elite universities have a lot of difficulties in their career paths. Diversity is more important and practical!

How to Discuss Diversity in Science in China

- global concept → local expression: diversity in science vs. reasonable structure of scientific human resources

- abstract concept → concrete settings: funding models influence diversity in science -- Big science relies on top-down activities involved in more elite scientists & unites in China vs. Little science depends on bottom-up research involved in more diverse human resources

- academic concept → policy discourse in China: gender equality vs. promoting the advancement of women in science

Possible Contribution of Institutional Theory in China RRI Studies

- A circle of institutional change: perceptible reality → belief → institution → policy → changed perceptible reality (North, 2005)

- We may ask questions such as: To what extent does our understanding of science in China reality differ with or without RRI conceptions? Can RRI policy learning change our beliefs and institutions in science? What should we expect when implementing RRI-related policy measures? How formal rules or regulations and cultures or social norms influence our RRI practice? ...

- More detailed case studies and in-depth comparative studies needed

Sören Wiesenfeldt

We have trust in the science system, so I'm surprised to hear views stating that science has to be totally reorganised. We face complex challenges that need careful science. We need systemic solutions involving many people; larger scale projects that can address topics in a broader way. However, we are not in such a disastrous situation!

I see this project as 'theory meets reality'; to help organisations to question themselves and go further. Of course, there is a change in the system; there are fears and contradictory expectations. The benefit is to explore different ways by exchange, by putting spotlights on us. We can benefit from the way the project is designed.

It would be useful to consider the way to discuss in peer groups that are characterised by such great diversity. It is difficult to find commonalities because the organisations and the national contexts are so different. On one hand, this is good; on the other, it is difficult to get to ideas about how to move forward because we always have to refer back to our unique contexts.

Anne-Maree Dowd

- Strengths of the project: Good to have multiple organisations and countries. The problems are global and RRI should be as well.

- But this is also a challenge: how to put forward indicators and best practices? We are not methodologically designed to properly handle the diversity of cultures. We should have a deeper understanding of culture.

- The scope of the keys are too narrow. Open access, gender, etc. should be addressed more broadly.

- RRI as transformational revolution: You cannot target transformation by including the usual suspects. You have to target those at the outside of the networks. And as they are outside the networks, they need to be included by different mechanisms for engagement.

- What is the value proposition of RRI? How do you expect me to go to the board to argue that RRI is more important than other things? RRI is not the goal! If I do all the RRI things, does it increase the CSIRO's performance? The RRI proposition must have rigour and credibility. Think about how decisions are made in boards and executive levels.

Parveen Arora

1. Policy and governance should be included as the 6th key of RRI. The impact of RRI practice would be felt or visible when policy and governance go together. The top down approach of policy will drive organisations in implementing RRI related changes. Policy places citizens at the centre enabling the organisations to conduct and translate the fruits of science for the benefit of the society and mankind. We need to include this perspective as part of the RRI framework.

2. There is a disconnect between public research and enterprises in the Indian national context. Market forces are weak, and as a consequence, basic research results do not get commercialised apart from several other impediments for realisation of innovation.

3. Funding organisations are important to involve, but what about industry and other stakeholders? Should they not be part of the studies? Universities and other public research organisations despite being important have a limited role in the innovation. That's where the industry comes in. The responsibility of innovation is transformed by those that use the research or technology into products and processes for markets. In fact, who owns the responsibility or synergize innovation (to happen) is of prime central concern in the developing context succeeding the aspect of ethics and other RRI dimensions.

4. What about the upcoming new technological changes like smart technologies, Internet of Things and smart manufacturing impacting innovation? These also need to be addressed in the RRI framework.

5. We need to assess and then analyse what we desire, as a consequence of the transformative changes for the RRI practice. We need to evolve a set of indicators for this purpose and why not an RRI index.

Fred Kronz

- This is a wonderful project, but changes in cultures take a long time; at least 10-20 years. I would personally like to promote RRI in the NHS.

- You need to be careful, because you don't want to be WEIRD[1] as social science researchers (Western, educated, and from industrialised, rich and democratic countries). You need to be clear about your position, assumptions and biases. The context of your research will matter and you must be transparent about our values. Emphasise that there is no value neutrality.

- The family resemblance notion mentioned in the proposal is a good way to think about RRI.

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[1] Henrich, J., Heine, S. J., & Norenzayan, A. (in press)**.** The Weirdest people in the world? (PDF) *Behavioral and Brain Sciences*.

- The gender key is too restrictive; diversity is better. Cognitive, cultural and disciplinary diversity important. Cognitive diversity = multi-disciplinarity
- For this to be sustainable it requires proof of concept and metrics for success; longitudinal data making the case for RRI in a reflective way.

Sergio Quieroz

RRI is related to a movement of accountability of science. I am concerned about RRI as something to be understood as a big package of transformative culture change. The value must be perceived by the institutions. The progress of open access, public engagement, etc. is due to the institutions' appreciation of the value of this. This project should be a platform for exchange, not only for transformative change. Consider that we deal with conservative institutions. Change must be careful and promoted it in the right way. Giving recommendations to achieve transformative change goals will not be received at all by the organisations; it must make sense to them.

Liam Blackwell

- Is the project assuming that people have responsibilities that they are not fulfilling? I think this is the case and therefore this is a good thing about the project.
- It is a danger that we don't have a deep enough understanding of the context; countries, disciplines, etc. The tools we will offer must be context specific; fit with different situations.
- Threat: expectations seem to be changing while the project is ongoing. What is the understanding of RRI (keys, etc.)? It might be unavoidable that these are changing while you're doing the project, but it might create problems for you.
- The project should also stay at a practical level. Do not present big papers to the organisations. I can't translate lots of words and tables to my colleagues.
- We should look at pathways to impact for the project.
- Are there opportunities to do experiments as part of the study? Test out some ideas? Pilot cases? Test your understandings and ideas?
- Universities must take on board RRI, also institutionally, because they are connected to innovation. They do have a major impact on innovation because they train almost all researchers and innovators, especially related to technological innovation. So you have to engage with universities.