

Title

The 'challenges' policy target: the need for novel solutions to old problems?

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Abstract

The 'grand' or 'global' or 'societal' challenges rhetoric used in justifying rationales in the area of research and innovation policies has spread considerably over the last five years. While this discourse has started mainly at the EU level it has also penetrated the national level with several countries orienting their policies, in isolation or in collaboration with others, towards dealing with global challenges. It is interesting to see the 'new' elements in today's discourse in comparison with similar policy discourses in the past. At the same time it is also worth examining the ways this term is addressed (explicitly or implicitly) and what it implies in European policy documents as well as reports presenting future strategies and policy orientation at European, national or sectoral levels. This will follow an analytical framework developed by an EU-SPRI funded project (represented by the abstract submitted by Kallreud, et. al. under Theme 5, 'Emerging challenge-driven approaches in contemporary research and innovation policies') and it will be based on the results from the ongoing FP7 project "Visions for ERA - VERA" where a stocktaking exercise was carried out of "Grand Challenges" identified by forward looking studies since 2007. Within this context, existing EU policy instruments (such as joint programming initiatives or European innovation partnerships) will then be examined in terms of the degree to which they respond to the specific features and implications of the nature and use of 'grand challenges' as rationale for policy intervention.

Keywords

Grand challenges; global challenges; societal challenges; European research and innovation policy.

Objectives

The 'grand' or 'global' or 'societal' challenges rhetoric used in research and innovation policies has spread considerably over the last five years. While this discourse has started mainly at the EU level it has also penetrated the national level with several countries orienting their policies, in isolation or in collaboration with others, towards dealing with global challenges. While this type of policy discourse is hardly new it does present some novel features that call for new approaches in dealing with societal problems.

In this context the objectives of the paper are

- To identify the 'new' elements in today's discourse about 'grand challenges' in comparison with similar policy discourses in the past.
- To examine the ways this term is addressed (explicitly or implicitly) and what it implies in European policy documents as well as reports presenting future strategies and policy orientation at European, national or sectoral levels.
- To examine existing EU policy instruments (such as joint programming initiatives or European innovation partnerships) in terms of the degree to which they respond to the specific needs in dealing with 'grand challenges'.

Approach

The results are based on a review of around 70 documents carried out under the VERA project¹ as well as a collection of EFP briefs that are relevant to grand challenges².

70 docs were reviewed under the VERA project in relation to how grand challenges are discussed. This list included ERA governance related policy documents, European forward-looking activities (FLAs) addressing the future of ERA, FLAs in national R&I priorities, FLAs on important European sectors like IT, agriculture, security, transportation, energy and new emerging technologies and FLAs of international scope. The review of these documents addressed the ways grand challenges or issues associated with grand challenges were discussed. More specifically, information was retrieved in relation to the thematic areas of the challenges discussed, the explanations of justifications of the challenges, the aspects implied in relation to ERA and R&I governance, and the associated scenarios and solutions suggested.

This review resulted in around 761 statements about grand challenges. These were then brought together based on intuitive judgments of the project members into specific clusters of grand challenges, 16 in total.

The second major source is the EFP (European Foresight Platform). EFP produced a publication with a selection of Briefs shedding light on some of grand challenges. The 20 Briefs presented are a selection from more than 220 currently available on the EFP website and they address some of the Grand Challenges most poignantly. (Giesecke, 2012)

¹ <http://eravisions.eu/>

² http://www.foresight-platform.eu/wp-content/uploads/2012/06/Briefsammlung-20-EFPfinalevent_V7-final.pdf

Expected results

While the orientation of policies to deal with ‘global challenges’ is not new, there are some novel features that characterize current approaches on how ‘grand challenges’ are addressed. Some argue for a new mission-led approach to innovation policy that is more global in outlook and oriented towards more societal goals. It differs from earlier mission-led periods like in the 1940s and 1950s when similar orientations were more nationally focused and largely oriented towards supporting the military–industrial complex (Gassler et al. 2008).

The issues covered by the term ‘grand challenges’ cross national borders, are grand in scope and scale, and difficult or even impossible to solve by single agencies or through rational planning approaches. While this has been understood by academics and policy-makers, the main novelty lies in the increasing attention given to such issues in formulating new missions for research and innovation policy. (Cagnin, et. al. 2012)

However, it is also worth noting the absence of the notions of policy integration, interdependence, as well as the limitations in dealing with grand challenges and which made previous efforts unsuccessful but which still exist today. This may imply a more ‘opportunistic’ use of the term than a strong willingness of the policy-making community to find real solutions to long-standing or new emerging problems.

In the documents studied under the VERA project emphasis is placed on major problems facing modern societies like climate change, environmental degradation, energy shortages, natural resources depletion, migration, ageing, new forms of crime security threats, health and poverty as well as financial or political shocks. Overall, it is a combined socio-economic perspective that underlines the way these challenges are discussed.

The novelty of the ‘grand challenges’ term or the extent of (re)framing it to the current policy debates appears to be of less importance in the documents studied than in academic debates. The concept is primarily used to establish rationales for policy interventions. It could be argued that in the EU strategic policy documents and to some extent the FLAs of international scope the concept is used as a means to capture the imagination of publics, politicians and stakeholders so as to align and orient efforts towards the achievement of specific goals that serve the public good. Interestingly the concept seems to serve the needs and interests of all different cohorts (society, policy, business) the least from a communicational aspect. In this regard there is a ‘promotional’ or ‘normative’ tone in these documents in terms of the need to tackle the grand challenges addressed.

A feature of grand challenges highlighted in some policy documents is that grand challenges are complex. One dimension of this complexity is that they are inter-linked with each other in various ways thus increasing their scale of influence. This is especially true for migration for example as it is in essence a result of not tackling other challenges (climate change, food and water shortages, natural disasters, pandemics, financial crises, etc.). Some challenges address and may impact a wide range of sectors of the economy (like the ‘energy / resource efficiency’ challenge). Ageing is another example of having a wide range of implications in all sectors of society and calling at the same time responses from many different fields (s&t, society, policy).

At the same time certain conflicting issues emerge especially in the overall “philosophy” on how certain challenges should be tackled. On the one hand there is the classic “growth” rhetoric based on competitiveness and growth of the neo-classical paradigm. This approach sees climate change and sustainability challenges for example as an opportunities for new businesses. The major concern is Europe’s lagging behind against its main competitors and emerging new economies and new technologies are seen and discussed with regard to competitiveness. On the other hand, there are the advocates of new economic and business models that are socially and ecologically responsible. This approach calls for paradigm changes such as changing production and consumption patterns as well as societal values and ultimately acknowledges the limits to growth in a world of finite natural resources.

The need for international collaboration as well as what this implies on current collaboration structures and attitudes is discussed particularly in relation to the challenges regarding health, ageing, migration, security, and basic resources shortages. The need as well reluctance to delegate power at international level has been noted alongside the need to strengthen existing structures or create new ones.

It is interesting to note that in the discussions about the ways and approaches that should be adopted in dealing with grand challenges the notion of ‘users’ is given a more active tone. Users are addressed as important stakeholders that should get involved actively at the outset in the discussions about how to deal with grand challenges. In this regard ‘users’ may also mean ‘co-producers’³, or ‘co-innovators’⁴. This may also reflect emerging trends towards different types of production like peer production (Benckler, 2006) or open innovation (Chesbrough, 2003) or user-driven innovation (von Hippel, 1986).

There are also challenges where the element of uncertainty on how things will evolve is stronger and thus are characterised by a more exploratory stance in their analysis. This may be the case for example for the changing world order (multipolar world) or the changing values and attitudes at global level or the challenged role of the state.

Overall, solutions have to manage and reflect the great complexity and far reaching consequences due to interlink ages of grand challenges with many areas of sectors of economy and society. Are relevant EU instruments (like Joint Programming of European Innovation Partnerships) fit for the purpose of dealing with grand challenges and what this implies in terms of organisation, scale, and governance? Their scope and focus acknowledge the boundary-spanning nature of grand challenges. They clearly highlight the inter-disciplinarity needed in the knowledge bases that have to be combined and by promoting the inclusion of all relevant stakeholders they may also facilitate cross-sectoral collaboration between the public and private sectors, a multi-level governance approach, as well as cross-departmental policy coordination and coherence. But how much the progress made is enough to meet the special needs of dealing with ‘grand challenges’?

³ a responsible consumer who chooses to enjoy quality food produced in harmony with the environment and local cultures (<http://www.slowfood.com/international/27/be-a-coproducer>)

⁴ Following von Hippel’s (1986) notion of user-driven innovation

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