# EUROPEAN
# **POLICY**BRIEF

## CO-CREATING RESPONSIBLE RESEARCH AND INNOVATION ACTIVITIES: EXPERIENCES FROM THE WESTERN BALKANS

WBC-RRI.NET and the co-creation which took place in the first half of the project provided the consortium with new experiences, insights, and lessons learned leading to recommendations for the quadruple helix in the region addressing stakeholders in government, research and academia, the private sector and civil society.

**31. August 2022**

## INTRODUCTION

The Responsible Research and Innovation (RRI) approach aims to encourage societal actors to work together during the whole research and innovation (R&I) process, to better align R&I and its outcomes with the values, needs and expectations of society. Experience gathered in several projects dedicated to RRI[1] shows that strategies and practices based on RRI can open up R&I to all relevant actors, and improve co-operation between science and society, fostering the recruitment of new talent, and pairing scientific excellence with social awareness and responsibility.

Territories have a specific advantage to address the complexity of the challenges set by the interplay between science and society. Indeed, local actors have the intimate knowledge of the physical territorial setting, and local ecology, i.e. the status quo of the complex relationships between cultural, social, economic and political actors, of the local dynamics, history, expectations and requirements as well as specific concerns. Territories can work towards the establishment of self-sustaining R&I ecosystems that are characterised by a high degree of openness, democratic accountability, and responsiveness to needs by taking action to promote the pillars of RRI (i.e. gender equality, science education, open access/open data, public engagement, and ethics) together with the application of its four dimensions (anticipation, reflexivity, inclusion and responsiveness).

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[1] such as TeRRItoria, SeeRRI or DigiTeRRI, etc. For further information, please see the CORDIS database on EU projects and results here.

The RRI approach requires bringing relevant actors together in partnerships, for instance, citizens and civil society organisations (CSOs), universities, research institutions, formal and informal education institutions (including primary and secondary schools), governments and public authorities (including regional and local administrations and science policy institutions), businesses (including industry, the service sector and social entrepreneurs) and science mediators. The application of new R&I working methods within and between organisations, including novel and transparent governance relations, would promote greater sustainability and inclusiveness at local, national, EU and global levels.

The WBC-RRI.NET consortium aims to elaborate and implement a more open, transparent and democratic R&I system in the five Western Balkan (WB) territories participating in the project[2]. The consortium has already initiated and will continue to implement a series of regional and RRI-driven activities, ultimately providing evidence of societal, democratic, environmental, economic and scientific impacts. The project also aims to bring a sustainable transformative and opening effect in the participating organisations; lasting beyond the lifetime of the project itself for instance through the introduction of new forms of decision making, development of business plans or co-operation agreements, and institutional changes in the organisations, their territories, and beyond.

## EVIDENCE AND ANALYSIS

**Lessons Learned**

WBC-RRI.NET already entailed a series of mapping exercises and co-creation procedures at regional level, taken place during the first half of the project. The participatory and systematic in-depth mapping allowed detecting key regional actors to be engaged, while the regional co-creation addressed the co-design of the regional RRI 'anchor' initiatives[3] through a series of regional, participatory, and inclusive co-design workshops (minimum two per WB territory). The so-far project activities and particularly the regional co-creation procedures have provided the WBC-RRI.NET partners with several new insights and lessons learned. These insights and lessons are described in detail below.

The first step, a participatory and systematic in-depth mapping[4], allowed detecting key regional actors to be engaged. A successful mapping exercise combined with the establishment of a respective network can further ensure the participation of the important parties. Highlighting and capitalizing on best regional cases related to RRI can also attract new key players representing the entire Quadruple Helix (QH) (comprised of representatives from academia, industry/business, the policy sphere, and society). Finally, emphasising new and differentiated perspectives during the co-creation procedures and bringing them in front of the debate – and even disseminating them further – can open new exploitation pathways for the co-creation results.

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[2] The five WB territories participating in the project are the following: 1) Kune-Vain-Tale lagoon wetland ecosystem (Albania); Republic of Srpska (Bosnia and Herzegovina); 3) Montenegro; 4) Skopje (North Macedonia); Vojvodina Province (Serbia).

[3] The RRI 'anchor' initiatives are specific interventions that touch in-depth specific RRI keys, territorial features, and scientific domains in each WB territory participating in the project.

[4] More details on the WBC-RRI.NET mapping methodology and mapping results are outlined in the WBC-RRI.NET deliverables D1.1, D1.2, and D1.3.

During the realization of the WBC-RRI.NET co-design activities, it was further observed that both physical and online workshops can have beneficial effects in terms of participants' involvement and engagement. In particular, physical meetings provide the opportunity to meet the QH representatives in person; their in-between exchange of views and feedback is more direct and the overall conditions favour the evolving of fruitful, reciprocal dialogues. On the other hand, conducting online workshops can potentially 'assemble' a bigger number of participants and enable greater diversity and geographical inclusion[5]. Such insights verify the arguments of several projects implemented in the COVID and post-COVID era, and add evidence that the COVID-19 outbreak and consequent digitalisation evoked both positive and negative effects in terms of project implementation. As noted by the WBC-RRI.NET partners, from now on the attention should on detecting these contextual, causal mechanisms that trigger either the beneficial or negative effects. Finally, whether physical or online meetings, the topics presented need to be attractive and highly relevant to the stakeholders, giving them an added value for their participation.

WBC-RRI.NET partners noticed that academic actors and researchers should be encouraged to make highly significant contributions. Given their experience in the field of scientific research and their knowledge upon the issues raised, they can share significant insights and information with the rest of the QH representatives. As for having different QH representatives to the same meeting or event, it can occasionally prove challenging to engage them all and achieve an efficient interaction given their different interests. Nevertheless, such meetings have greater potential towards fostering future cooperation among the different helices and sectors.

Apart from the academic actors, specific insights were gained on the engagement of Civil Society Organizations (CSOs). They can aid in overcoming some communication difficulties during the co-creation meetings, since their role and activities contribute to bridging the communication and comprehension gap between the rest of the QH representatives and the regional/local communities. Similar observations were also made towards the engagement of industry and business representatives; gradual steps are needed for establishing cooperation with them, accompanied by an appropriate communication channel for overcoming any hesitation.

Finally, when having government actors attending such workshops, their presence can have a dual effect: a) it ensures the support and enhancement of the co-design activities at national level, but b) it discourages and 'frightens' local communities, occasionally impeding their active involvement. When this 'intimidation' is further combined with citizens' frequent reluctance to participate in regional innovation activities, this may lead to citizens being identified as the "weaker link in the chain", thus a different and context-based approach concerning their engagement and motivation is needed. Overall, it is considered of utmost importance to create the circumstances that will give the space, time, and appropriate context to all the QH actors to share their opinions, ideas and experiences

WBC-RRI.NET partners have also used some 'strategies', aiding them in further engaging their target groups. For example, the following activities conducted prior to the main co-creation meetings have proved to be beneficial and facilitated the actors' active engagement and participation: raising awareness by providing the participants with information on  the project and the upcoming co-design activities; organising preliminary 'focus groups' and informative meetings, particularly with the regional actors and key 'players' in the region. WBC-RRI.NET partners reported that such actions

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[5] For more information see Wu, J., Rajesh, A., Huang, Y.N., Chhugani et al (2022). Virtual meetings promise to eliminate geographical and administrative barriers and increase accessibility, diversity and inclusivity. Nature Biotechnology, 40(1), pp.133-137.

additionally provided the engaged actors with the sense of having a more substantial role in the regional activities, thus being the 'stepping stone' towards building a relationship of trust. Concurrently, this feeling of trust can further mitigate the risk of making some participants feel marginalized from the decision-making process.

Proceeding to the realisation of the main co-creation meetings, specific (online) tools – for example, regional future scenarios[6] – were proven to be particularly efficient in interactively engaging the QH representatives in the co-design process. Ensuring a follow-up communication with both the attendees and the actors that could not attend the workshops by keeping them informed on the upcoming steps, was similarly proven to be an effective approach for maintaining the actors' interest and engagement.

Overall, an all-encompassing insight that partners gained refers to allowing space for being flexible and adaptable towards the original plan. Particularly regarding co-creation activities and meetings, participants' attendance and engagement cannot be foreseen. For example, some WB partners implemented additional co-design workshops to the two workshops originally scheduled. The same flexibility (or even having a 'plan B' in place) is required when the timetable for the designed activities is somehow 'narrow' (e.g. due to the pre-defined timespan of funded projects).

**Challenges Experienced**

Within the context of co-creating regional innovation processes, underlining the challenges that hinder the co-design process is of utmost importance. The main challenge experienced in the WBC-RRI.NET co-design case refers to the engagement of the QH actors in the design of RRI 'anchor' initiatives. Bridging the gnostic/knowledge gap among the different actors was challenging, and in particular the gap that exists among the different interests of citizens, local business representatives, academia, and national representatives. Another challenge refers to the political instability potentially faced by a region, which can hinder the development and implementation of regional innovation policies, as well as relevant co-creation processes and the follow-up engagement of some actors.

With particular reference to fostering citizen science, the major challenge experienced was the gnostic vacuum and the lack of understanding of scientific explanations or technicalities of scientific research on behalf of some QH actors. This challenge slowed down their active engagement in the co-design workshops, leading to either limited -of what was desired- feedback, or to extra efforts in meetings preceding the workshops so as to unravel and customise to further detail the necessary scientific concepts to be dealt with during the co-design. Finally, issues of trust occasionally emerged. While some of the workshops' themes were closely related to some specific QH actors, some other actors were clearly sceptical either about the theme or the process, or both. As for the sources of the actors' scepticism, some partners have mentioned the regional actors' subtle confusion towards the concept of RRI (labelled as such), the lack of trust towards regional authorities, as well as assumptions that public engagement actions are used only as a means to legitimise the activities of the expert elites.

Proceeding to the contextual (design) factors of the co-creation workshops, the online form of some of the workshops might be a facilitating factor in attracting more attendees, but can also evoke a few challenges for participants' active involvement. As the WBC-RRI.NET partners mentioned "...due to the online form of the workshop some of the participants were not very engaged", something verified also through the participants turning off cameras during the meetings.

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[6] The WB territories participating in the project have developed a set of future scenarios, available in a dedicated project deliverable (D3.1).

Finally, as mentioned by the WBC-RRI.NET consortium, a strict time frame for the planned activities may discourage some actors towards remaining committed to the process. A mitigation strategy suggested by the WBC-RRI.NET partners refers to always carefully considering the given time limitation of European projects, while concurrently trying to bring the best possible results, working closely with the QH actors and keeping them genuinely interested and engaged to the co-creation process. In this way, steps towards the sustainability of the outcomes of the regional activities are gradually made, and the desirable vision of each region is gradually built.

## POLICY IMPLICATIONS AND RECOMMENDATIONS

**Relevance for all QH actors**

- Western Balkan economies do not yet have strong innovation ecosystems, and the relationships, for example between academia and industry, require further improvement, guided by cooperation, mutual learning and clear win-win situations. It is paramount to use available opportunities to build trust and strengthen relationships, and to increase networking between the different sectors. Co-creation activities in projects build skills for productive interaction and self-organisation.
- Co-creation activities, with proper engagement techniques, can be capitalised for creating networks of stakeholders willing to change eventually (pre-)determined opinions and to develop mutual understanding. This is particularly important on a regional level in the Western Balkans. The desired 'breadth' and the 'depth' of the emerging networks should be considered, while keeping all stages of engagement transparent and open.
- Key ingredients are 'open spaces' for discussion between quadruple helix stakeholders giving time and space for reflection and exchange, such as communities of practices and targeted working groups. Resources such as time and money as well as human resources need to be adequately allocated. Relevant procedures and outcomes should be openly communicated.
- QH actors need to jointly support dedicated professionals at the interface of research and innovation, e.g. facilitators of co-design activities and science communicators, build boundary organisations and sustain institutions and structures which are still underdeveloped in the region.
- Currently, awareness and understanding of co-creation processes are still to be improved in all sectors which are addressed through RRI. WBC-RRI.NET found, for example, that there is still a lack of awareness about the implementation of citizen science initiatives, the curation of open data, development of open educational resources, the governance of ethical issues, etc.

**Governmental stakeholders**

- Although it is sometimes easier to focus RRI-related discussions on national level, local and regional (subnational) governments play important roles to embed the principles in the territory and to ensure sustainability. They need to be included in RRI networking and be inspired to develop genuine interests and fully engage. Also, intergovernmental organisations such as the Regional Cooperation Council are key to facilitating the regional approach and identifying the respective priorities (e.g., by supporting working groups related to women in science, technology, engineering and mathematics (STEM) or open science).

- Governmental stakeholders need to be better prepared to get involved in participatory processes and think outside-of-the-box, reduce administrative and bureaucratic procedures and encourage the implementation of RRI principles, e.g. to promote gender equality, diversity and inclusiveness and participate in mutual learning activities. Legislative and regulative frameworks need to adequately encourage RRI practices, e.g. access and reuse of data and scientific results, address gender-based violence, etc.
- Different funding and support schemes should carefully include RRI aspects, such as ethics, open standards or gender equality, in the processes of evaluation, selection and monitoring. Initiatives that bring research and innovation closer to citizens should be (financially) supported. Non-academic stakeholders should be systematically involved in decision-making bodies of the research and innovation ecosystem.

**Research and academic stakeholders**

- RRI requires the dedicated involvement of universities, research centres, academies of sciences and learned societies, networks of scientists and also independent researchers in order to induce change at the institutional and individual levels.
- Institutional culture of research performing organisations needs to build on RRI principles, e.g. reinforce academic integrity, ethics, inclusiveness, regular participation in science festivals etc. and encourage networking with all QH stakeholders. Support staff should be available offering practical help e.g. on public engagement, outreach, creation of open resources, involvement of marginalised stakeholders and generally support to fulfil open access or ethical requirements, etc.
- Research and academic institutions should also open up the access to their infrastructures, providing clear guidelines on how to engage. The development of open science and open access infrastructures also needs a clear division of roles in relation to their maintenance and should build on the opportunities offered by various EU initiatives such as the European Research Infrastructure Consortia (ERIC), the European Strategy Forum for Research Infrastructure (ESFRI), the European Open Science Cloud (EOSC), etc.
- Professional development schemes, training and knowledge exchange in relation to RRI are important, thus RRI issues and co-creation approaches should be included in curricula as well as continuous education schemes for staff.

**Private sector stakeholders**

- The full range of private sector stakeholders should be involved. The relevant industries and private companies of all sizes, i.e. large multi-national organisations as well as Small and Medium Enterprises (SMEs) and start-ups, should be prepared to get involved in participatory processes. Managers and employees should participate in committees, working groups or round tables as part of a culture to share and in particular to network with unusual cooperation partners.
- The social dimensions of technological development and innovation need to be systematically considered within the context of a socio-constructionist and human-centred approach to research and innovation. Debates around the concerns of the citizens should be particularly taken into account.
- Several RRI keys need particular attention of the private sector, e.g. to ensure gender equality in leadership positions, supporting women in business R&D and promoting networks for female entrepreneurs. Ethical procedures and practices also need to be reinforced in business research and innovation.

**Civil society stakeholders**

- Civil society organisations such as community groups, labour unions, private charities, foundations, national and transnational non-governmental and non-profit organisations (NGOs and NPOs) should strive to stay informed through scientific expertise, and also use scientific evidence to advocate for their goals. Results of research and innovation activities should also be accessible to individual citizens and civil society stakeholders that have the capacity to bridge this knowledge towards them.
- CSOs are important stakeholders in terms of mobilising diverse communities and ensuring participation in public panels and debates. Furthermore, systematic communication with them and relationships of trust are relevant to avoid mis- and dis-information and to check facts.
- CSOs should consider making their data available for scientists to use. Their publications should be available in open repositories and one should consider to publish in journals, co-authoring scientific articles.

## SUSTAINABILITY AND LEGACY

WBC-RRI.NET's deliverables are publicly available for stakeholders to use. Moreover, participation in working groups and anchor activities is open to stakeholders from the regions as well as beyond. Particularly the three working groups established in the project (WG1: Gender and Ethics; WG2: Science Education and Public Engagement; WG3: Open Science and Open Access) allow involvement of multiple interested stakeholders. Each of the groups initiates a set of systematic RRI-driven activities building on long-term goals, a roadmap and corresponding action plans, thus ensuring the spreading of RRI activities in the region and further sustainability. The activities planned by the working groups include for example the recording of podcasts, the organization of webinars and round tables involving all players of the QH, etc. The focus is on creating sustainable impacts on the regional level of the Western Balkans.

Through the ongoing work, a wide range of stakeholders is coming in touch with the RRI concept and its implementation. Institutional change in the participating organisations and the long-term effects of the anchor activities are going to be observed beyond the project runtime.

Additionally, the project web site (https://wbc-rri.net) and project social media platforms are regularly updated and will be active for at least three years after the end of the project.

Furthermore, the consortium and working group members explore possibilities for follow-up projects and initiatives to ensure sustainability and legacy of the WBC-RRI.NET project.

Although Western Balkans have improved in terms of R&I performance, research and innovation efforts need to be further enhanced for bridging the remaining 'gap' with the rest European regions. RRI principles can act as enablers for the sustainable development of the local R&I systems, enhancing the effectiveness of R&I strategies contributing to the advancement of Western Balkan socio-economic progress in a transparent, open, and inclusive way through active participation of all quadruple helix actors.

WBC-RRI.NET aims to foster the application of RRI principles at the territorial level in five (5) Western Balkan ecosystems – four on region-level and one on country-level – and promote a multi-level steering R&I governance framework. RRI principles act as enablers to the shared learning and diffusion of R&I governance innovations at territorial level, enhancing R&I planning, including S3 Strategies in the region.

The specific project objectives are:

- To enhance local/regional R&I ecosystems' capacity to tackle contemporary societal challenges and territorial research priorities,
- To assist local R&I organizations to adopt RRI principles for effectively addressing the challenges that scientists and researchers face today,
- To contribute to the enhancement of Smart Specialization Strategies in the WBs, by promoting a more open and inclusive approach to research and innovation policy development,
- To apply a 'smart directionality' policy approach so that the advanced innovation planning will be 'tailored' to societal/regional challenges,
- To promote a multilevel, steering R&I governance framework in the WBCs by advancing innovation policy consultation and planning at the local and regional level.

The project's approach evolving through an analytical, reflective and implementation thread, operationally addresses the five WB territories and subsequently influence the wider WB region, by activating the embedding of RRI into their R&I ecosystems. This is being realised by RRI activities throughout the entire project, raising an active dialogue in the wider WB region and fostering the comprehension of all RRI pillars under a holistic framework based on a 'smart directionality' approach, offering stakeholder engagement with a focus on citizen participation. Alongside, five RRI 'anchor' initiatives (vertical aspect), as interventions touching in-depth specific RRI keys, territorial features and scientific domains, allow RRI principles to be rooted in the territorial ecosystems leading to concrete impact to R&I territorial policies and societal regional needs. The project partners also represent all parts of the quadruple helix. Finally, impact evaluation and dissemination activities focus on the project's long-term sustainability.

This initiative enhances R&I planning, including smart specialisation strategies in the WBs, and fosters strong socioeconomic development while informing R&I policy and enabling the region to better address its needs. At the end of the project, the project will have sparked open dialogue, created a regional network and helped the WBs to contribute to the goal of a single, borderless European Research Area.

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| **PROJECT IDENTITY** | |
| **PROJECT NAME** | Embedding RRI in Western Balkan Countries: Enhancement of Self-Sustaining R&I Ecosystems (WBC-RRI.NET) |
| **COORDINATOR** | Prof. Goran Stojanovic, University of Novi Sad, Novi Sad, Serbia, sgoran@uns.ac.rs |
| **CONSORTIUM** | - Association "Knowledge, Education and Science – ZONA" – Podgorica, Montenegro<br>- Co-PLAN, Institute for Habitat Development – Tirana, Albania<br>- European Science Foundation – Strasbourg, France<br>- Macedonian Academy of Sciences and Arts – Skopje, North Macedonia<br>- Ministry of Tourism and Environment – Tirana, Albania<br>- NCDIEL – Skopje, North Macedonia<br>- RTD HEALTH CLUSTER – Banja Luka, Bosnia and Herzegovina<br>- Science Technology Park Montenegro – Podgorica, Montenegro<br>- South-East European Research Centre – Thessaloniki, Greece<br>- University of Banja Luka – Banja Luka, Bosnia and Herzegovina<br>- University of Novi Sad – Novi Sad, Serbia<br>- Vojvodina ICT Cluster – Novi Sad, Serbia<br>- Zentrum für Soziale Innovation – Vienna, Austria |
| **FUNDING SCHEME** | Horizon 2020: SwafS-14-2018-2019-2020: Supporting the development of territorial Responsible Research and Innovation |
| **DURATION** | March 2021 – February 2024 (36 months). |
| **BUDGET** | EU contribution: 1 999 995 €. |
| **WEBSITE** | https://wbc-rri.net |
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| **FURTHER READING** | Invitation to join WBC-RRI.NET working groups: https://wbc-rri.net/establishing-wbc-rri-net-working-groups-you-are-invited-to-join/<br>Invitation to share RRI Good Practices: https://wbc-rri.net/call-for-submission-of-good-practices-in-rri/ |