



Co-designing Citizen Social Science for Collective Action

D7.2

Interim Impact Assessment Report

Evaluation activities, interim results and overall reflections on co-evaluation



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1. Executive Summary

The main aim of the evaluation and impact assessment in CoAct is to bring evidence of the impact that the project's Citizen Social Science activities have on the involved actors, such as co-researchers, citizen scientists, knowledge coalition members, and professional researchers, as well as on their socio-cultural contexts. Additionally, the formative evaluation aims at the assessment of user-acceptance factors, such as ease of use and perceived usefulness, of the involvement activities, offered materials, developed prototypes, and the research process as a whole. This input will iteratively shape our interaction activities, the materials and the prototypes, trying to detect the non-conformances that may occur during the Citizen Social Science co-research process as well as drivers for engagement and usage.

In CoAct we follow a co-evaluation approach, which is a form of participatory evaluation that initiates the conversation on expectations, objectives, and impact already at the start of the project. The approach has been elaborated in the Deliverable D7.1 CoAct Impact Assessment Plan (Schäfer et al. 2020) and has raised international attention in the citizen science community. The strong interest in CoAct outreach activities with regards to our co-evaluation approach has been confirmed by participants in our webinars, workshops and the recently launched call for papers in the Special Issue "Participatory Evaluation and Impact Assessment in Citizen Science" of the *Journal for Research and Technology Policy Evaluation*.

After two years of project work, the co-evaluation efforts in the three main R&I Actions of the project, namely Citizen Social Science on mental healthcare in Barcelona, on youth employment in Vienna and on environmental justice in Buenos Aires, have already led to important insights. On the scientific level we see e.g. that the research questions are shaped by the social issues at stake. Scientific objectives are less visible in communication and motivation than the specific concerns, confirming a strong problem-driven approach. At the level of participating actors we can observe some fluidity in the roles for certain actors, such as co-researcher or members of the knowledge coalitions, who reveal diverse motivations for participating. In the case of mental healthcare in Barcelona we observe e.g. a growing feeling of ownership across co-researcher and very high expectations towards achieving the project objectives. At the socio-ecological and political impact level most evidence is still referring to expectations and not yet measurable impact. These are however very high across the three cases and reveal a demand for stronger participation and citizen advocacy.

These first insights from co-evaluation are important to shape the remaining year of each case action, while also benefitting the gender action cases. It also contributes to the further development of co-evaluation strategies and learnings from a methodological point of view. On the other hand, we are also experiencing the limitations of co-evaluation as we had foreseen it at the beginning of the project, which will lead to important lessons learned to be documented at the end of the project.



2. Introduction

2.1. Purpose of the Document

This document presents the evaluation activities performed during the first two project years and the corresponding findings so far. It focuses on the implementation of co-evaluation practices in the three R&I Actions of CoAct. The document contributes to the project's internal learning and reflection on the project performance. The insights are discussed with the R&I Actions individually as well as in the whole consortium.

2.2. Structure of the Document

This deliverable is structured along the following parts:

- Updated co-evaluation approach in CoAct and some first reflections and learning from implementing co-evaluation so far
- CoAct R&I Actions: co-evaluation activities and corresponding results
- Cross-case analysis of the three R&I Actions
- Updated CoAct indicators set
- Capacity beyond the project and how we have been engaging with external stakeholders
- Summary and outlook

3. Co-Evaluation Approach in CoAct

In CoAct we are implementing Citizen Social Science activities that are rooted in social issues and specific concerns of people. These actions typically include non-traditional stakeholders, such as civil society organisations, schools, but also individuals. Thus, objectives, methods, and actors involved in such projects are as diverse as the topics and social concerns covered. Therefore, we have chosen a co-evaluation approach that strongly emphasizes collective discussion, learning and critical reflection with the involved stakeholders. As previously laid out in D7.1. CoAct Impact Assessment Plan (Schäfer et al. 2020), we define co-evaluation as a form of participatory evaluation that initiates the conversation on expectations, objectives and impact already at the start of the project. Ideally, this happens already when the research design is co-created with different stakeholders, or at least when the participation of actors is negotiated. If possible, this conversation across actors should be extended beyond the project funding time frame, in order to discuss and assess the manifold types of impact of a collaboration (a project, a programme, creation of an institution, etc.). Co-evaluation clearly takes a transformative stance, as it includes co-creation methods that aim not only at learning about a situation



but also at overcoming hindrances, tackling issues, and finding solutions to problems, such as how to measure the success of a research project in terms of stakeholder benefits.

During the first two years of the project, the CoAct R&I Actions tried to implement this co-evaluation approach. Each R&I Action has been led by a project partner, who established a local research team, consisting of relevant stakeholders including, among others, citizens concerned with the specific topic, representatives of civil society, as well as political and public administration representation. The ZSI research team has been guiding partners on how to implement a co-evaluation approach and has partly been interacting with the local research teams themselves by e.g. attending relevant meetings or conducting interviews.

Following a basic set of co-evaluation principles that were described in the previous deliverable (ibid), namely participatory ownership, openness and reflexivity, transformation, flexibility, documentation and transparency, and timing, a workflow has been defined that eases the interaction between the evaluation team at ZSI, the R&I Actions, and their local stakeholders. In the following table we reflect on this workflow, from the original plans to the concrete implementations in the R&I Actions.



Evaluation Workflow	Original considerations	Updates, considerations, experiences
Connecting, building trust, and representing all participants	<p>Establish strong relationships with the R&I Actions, based on firm understanding of the case topic and field, as well as getting to know the case partners and involved stakeholders.</p> <p>ZSI will act as provider and moderator of the co-evaluation processes, but participants are encouraged to take ownership and co-define the objectives and co-shape the instruments together.</p> <p>Protection of participants in vulnerable situations, while still involving them equally in the co-evaluation procedures, and making room for marginalised voices that are not represented in some processes. While all project partners are highly sensitive to issues that might arise from that fact, co-evaluation will also seek to provide the right measures and formats for inclusion, while safeguarding the personal rights of participants.</p>	<p>Good relationship with the research partners from the R&I Actions, but difficultly getting to know the other stakeholders, such as the co-researchers; a question of language, resources and trust (role of the ZSI team needs to be very clear).</p> <p>Taking ownership is not easily achieved with a distributed evaluation setting.</p> <p>Some cases included external (neutral) moderators facilitating a “trustful and empathic” environment; trust and empathy is established.</p> <p>Difficulties in adopting ways of participation for marginalised groups in times of Covid-19 (e.g. those with poor digital access opportunities, no direct access to co-researchers due to Covid-19 measures).</p>
Regular meetings	<p>In regular sessions, remote or on-site visits, ZSI will listen to the project developments, meet with project leaders and participants, propose evaluation measures and formats, reflect on prior experiences and challenges, and co-create the right settings for co-evaluation. It is important to establish continuity in the exchanges with the case teams and participants, keeping the right balance between informal exchanges and more formal, formatted encounters (e.g. interviews, etc.).</p>	<p>Regular meetings were held, but it is occasionally difficult for the ZSI team to keep up with the changes implemented; adaptive changes are however important as flexibility is an important principle of co-evaluation.</p> <p>Again, encounters with participants is a question of language, resources and making sure that people do not feel evaluated, when a ZSI team member is joining local meetings.</p>



Iterative development	<p>By aligning case priorities, planned activities and objectives with the co-evaluation strategy, we are deploying road maps for each case. Those roadmaps are dynamic documents that will guide the processes of definition, observation, documentation, reflection, and necessary adaptation. They further provide an important basis for the cross-case learnings and overall project documentation.</p>	<p>We have learned that roadmaps are very dynamic as local research teams have to adapt continuously. This makes it difficult for external actors, such as the ZSI team, to follow at all times.</p> <p>We will jointly reconsider the role of the roadmaps and the way the roadmaps are currently managed and updated.</p>
Cross-case learning	<p>Experiences from the co-evaluation in the different R&I Actions will be shared in cross-case learnings, where we exchange common challenges, good practices, and learnings from the field.</p>	<p>Covid-19 reflections were very useful for the R&I Actions to learn from each other how to face the move towards digital interactions, and decide how to deal with the changing situation for all, including the researchers.</p> <p>For year 3, cross-case learning will be key. Therefore, we are planning several such activities, starting Jan 2022.</p>
Creating a pool of instruments	<p>Out of the broad range of the existing participatory method inventory, we provide R&I Actions with instruments and help tailor them to their needs, through a joint selection process. Experiences with instruments will be discussed among all R&I Actions in the project and will be documented and shared widely via the Citizen Social Science toolkit.</p>	<p>Deliverable D7.1 provides a pool of instruments. However, we see that mostly the “traditional” methods have been applied so far. Some, such as the printed research diary, have been appreciated by the co-researchers, but for evaluation purposes these outputs are not directly accessible: they are very personal artefacts for the co-researcher and may have been used to take notes of their personal observations.</p> <p>Experiences still need to be further discussed, including reflections in how far appropriation of methods is possible.</p> <p>There might be more need for specific training on certain methods.</p>



Opening know-how	<p>An important aspect of the chosen co-evaluation approach relates to the dimension of open science. In the process of co-evaluation, informed consent procedures and open data strategies are determined collectively by the participants. More details on how this is handled by CoAct and in the specific R&I Actions can be found in the deliverables of WP9 as well as in D2.3 (due M24).</p>	<p>We can observe a general appreciation for open science across the R&I Action, always considering first personal data privacy.</p> <p>In year 3, this topic will be further reflected.</p>
Learning from feedback	<p>Based on principles of mutual respect, trust, and responsibility, we pay particular attention to response-ability. This means that during and also for 10 years after the project (as defined in WP9), we will make sure that there are open channels for feedback by all project participants but also from external stakeholders. Feedback will be documented and, whenever possible, fed back into the development process.</p>	<p>Feedback from participants have continuously been considered in the R&I Actions and have shaped the whole research process so far.</p> <p>Feedback from external stakeholders still has to be collected in the final project year.</p>

Table 1: CoAct co-evaluation workflow and first learnings



4. CoAct R&I Actions: Evaluation Activities and Corresponding Results

This section presents the status of the three main CoAct R&I Actions from an evaluation perspective. In Deliverable D7.1, we defined a co-evaluation roadmap for each case about how and where evaluation activities with stakeholders can be embedded. In addition, a first indicator matrix for each case was developed. Both the roadmap and the indicator matrix are living documents that have been updated in regular co-evaluation calls and adapted to the specific requirements of each case. Figure 1 below gives an overview of the general research processes that the R&I Actions are following and indicates the most important aspects of the evaluation process in parallel, which is however strongly interwoven with the research activities.

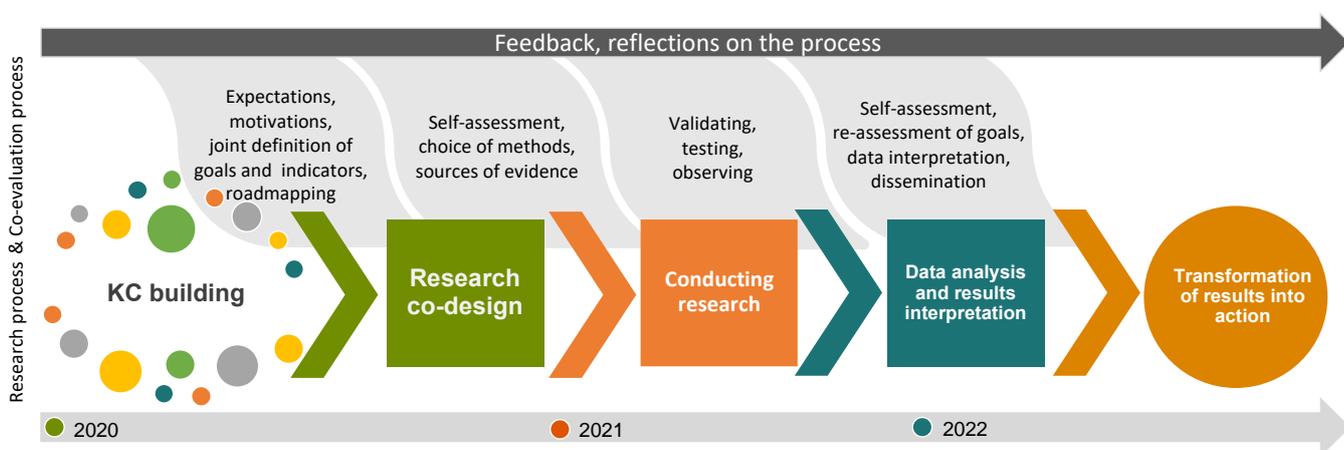


Figure 1: Overall research and evaluation process of CoAct R&I Actions

In the following sections, we present the different R&I Actions, their updated roadmaps and indicators matrices, as well as some first insights from the evaluation and impact assessment so far. The first insights are based on the qualitative analysis of data collected in various formats during the interventions, such as interviews, surveys, and group reflections. An overview of the data and the analytical approach is given in section 5 below, where we also present a cross-case analysis. This (mostly formative) evaluation after two years will be important for defining the focus of the last project year in terms of impact assessment (summative evaluation).

4.1. Mental Healthcare, Barcelona

4.1.1. Setting the Scene

In this R&I Action, the mixed research group includes adults with experience of mental disorders and their families, as well as representatives of the Mental Health Federation of Catalonia and the CoAct researchers of the University of Barcelona co-define measures for strengthening social support networks. In this R&I action, the involved citizen community is constituted by adults with an experience of mental disorders and their families,

living mostly in Catalonia. As co-researchers, they contribute with their lived experiences in the context of mental health social support networks. The aim of the research process is to strengthen these social support networks through a participatory Citizen Social Science approach, and thus to help individuals with an experience of mental health and their families advocate for the importance and effectiveness of social support networks as facilitators in the recovery process. Social networks act as a preventive factor in situations of isolation and social exclusion. Yet scientific research on the role of the family and other social support networks in the recovery process is still scarce and lacking evidence. The pilot seeks to make visible the broad community of people and institutions involved in the field of mental health, and to place at the centre of the research the voices and knowledge of individuals with an experience of mental health and their families. The results of the interaction and cooperation between co-researchers and the broad community of citizens who will participate in a digital conversation, which is mediated via a chatbot, is intended to provide the necessary evidence to legitimize the proposals of individuals with an experience of mental health as well as their relatives. During the first two project years, the project was mostly engaged in co-creating content with co-researcher for the chatbot to be launched at the end of year 2, corresponding to T3.1 and T3.2 in the Figure 2 below.

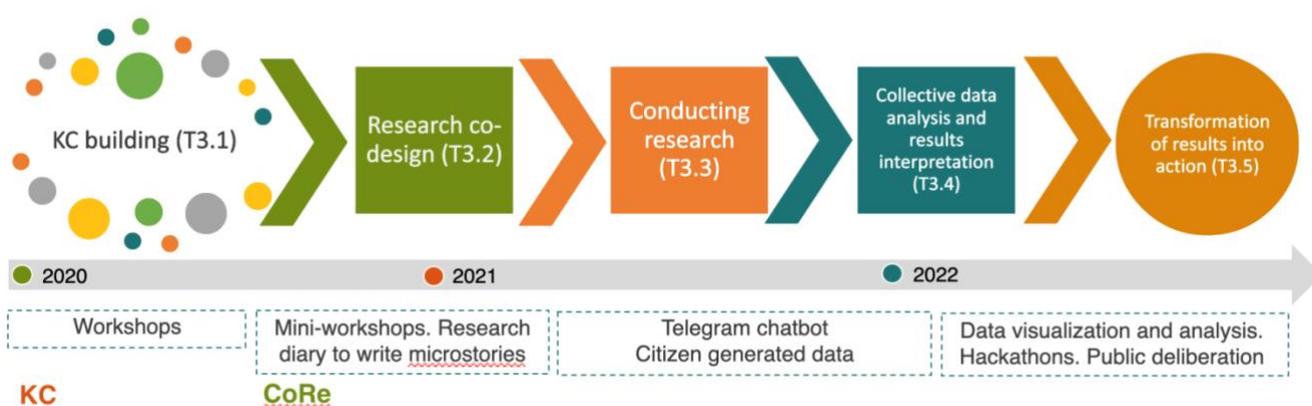


Figure 2: Research process of CoAct R&I Action I: Mental Healthcare Barcelona

4.1.2. First Insights from Evaluation

Actors

The dominating **actors** in this R&I Action, next to the leading team from UB and FSMC, are clearly the participating **co-researchers**. They have been given core roles early on in the project and have grown in their understanding of their role as co-researchers, gradually taking on ownership for the whole research process. From the collected data, we see this especially with a core group of co-researchers that is very committed and positioned themselves as active actors in the entire process. This becomes evident e.g. by their participation in the presentation of the project at scientific events, or their expressed interest in participating in the analysis of

the data collected via the chatbot. The following comment from a co-researcher noted in their feedback form summarises it very nicely:

“... I really want to participate in the whole journey to the end. At first as researcher, not as being researched, that what we are normally “researched”. And this is a qualitative leap. This mind-blowing project.” (Summary-BCN_Selfassessment_co-researcher, 21.06.2021)

It should however be noted that the co-researchers’ feedback is dominated by a few enthusiastic and highly engaged individuals. At the same time, there are overall very high expectations towards the project voiced by the co-researchers. Across these very enthusiastic and engaged co-researchers, important **personal benefits** from participating in the project have already been expressed. We find evidence of perceived impact on a personal level, such as by the following statement on the therapeutic nature of the collaboration:

“On a personal level it had been a great experience for me to strip myself naked and make certain stories that had cost me a lot and it has been a before and an after to be able to write those stories and see them drawn. Well, it has been very, very, very, very therapeutic. There has been a before and an after for me.” (Summary-BCN_Selfassessment_co-researcher, 21.06.2021).

Another important role so far has been the **moderator/facilitator**. This person, external to the leading organisations, brings in their expertise in managing collaborative and participatory processes of citizen engagement. They have been brought into the process to take a facilitation role, not being driven by the specific research questions but rather by the need to moderate a non-hierarchical process of collaboration. This role has been highly appreciated by both the researchers and the co-researchers, and contributed strongly to the creation of a trusted atmosphere and mutual respect. From a co-researcher perspective, facilitation was very important for empowering and overcoming the danger of power imbalance between the actors. Adding a “neutral” moderator was, however, not only important for the co-researcher but also a relief for the researcher team, as they had been faced with the challenge of inhibiting two roles at the same time – researcher and process moderator. In contrast to the way it was originally intended by the research team, the facilitator did not consider themselves as completely neutral, but rather as someone who could also give their opinion. The relationship between some of the co-researchers and the facilitators even extended beyond the project and there were communications between them established outside the activities and scope of this project.

Other actors who have been brought in during a certain phase of the project were a professional writer and a professional illustrator to support the story creation. Overall these two actors seem to have had a less influential role as they were also brought into the process for a limited and very specific interaction. Still, we can note some cross-learning, as the writer points out that she got inspired by the stories of the co-researchers.



Another role defined by the project setup is the **Knowledge Coalition** (KC) and its members representing stakeholder organisations, such as mental health support associations or international research partners. Although the R&I Action started the process by engaging with the Knowledge Coalition members, they were then less involved in shaping the process. The engaged actors tend to agree that the role of the KC still needs to be better outlined and the interaction with them will be heightened and more targeted in the final year. From analysing their first expectations towards the project, we see a push from the KC to internationalise the project and an interest in the process of Citizen Social Science from an academic perspective, although there are different motivational factors for participation in the Knowledge Coalition. What is important for the co-research team is the expectation that organisations being represented in the Knowledge Coalition take up the results and use them for improvements of services for mental health patients, as the following statement about expectations collected during a Knowledge Coalition meeting exemplifies:

“That the experiences of the first person really is considered fundamental in the decision making”
(BCN_Knowledge_Coalition_expectations, 15.07.2020)

So far, the federated network of associations of users of mental health services and families has been very important for the recruitment of co-researchers. As members of the KC, they are especially valuable since they have already well established and trustful relationships with other organisations.

Finally, when it comes to reflecting on the roles of the engaged actors we are left with the professional **researchers**. As previously noted, there has been a relief when the facilitator was brought on board, as the academic researchers could take on their core role and did not have to cover the additional role of facilitation. We find evidence that the professional researchers are trying to establish non-hierarchical relationships with their co-researchers and offer them participation options throughout the research process. However, they are still leading the research and guiding the co-researchers. Next to the overall problem-based objectives of the project, namely the improvement of the social support networks for mental healthcare, we also find a strong scientific motivation and the need to bring forward scientific results as a motivation. In addition, the researchers are pursuing a methodological interest and want to gain new insights into the possibilities of Citizen Social Science. In terms of process leadership there are sometimes doubts expressed, but these are compensated by the enthusiasm of the co-researcher.

While we have seen above how each group of actors may have slightly different motivations for participation in the project, we also find a strong common goal across these actors. There is a strong wish across all these actors for broader awareness raising on the topic of mental health, either at local, national or international level, as the following statement from the expectations of the knowledge coalition shows:



“That the environment of the person with mental health problems reaches a wider audience”.
(BCN_Knowledge_Coalition_expectations, 15.07.2020)

Research Process

When we look at the research process so far and in particular the co-creation sessions with the co-researchers and how it is implemented, the most prominent aspect evidenced by the available data is the **empathy** and the positive and respectful working environment that has been established. As mentioned before, the role of the facilitator has a strong influence on the positive working environment. The participation was highly appreciated and perceived as being on equal terms by most. Only one critical voice still detected a hierarchical schema behind the process, disguised in more participatory terms.

Due to the Covid-19 restrictions, the engagement options had to be changed rather early in the project to account for lockdowns and social distancing mandates, among other measures. However, while the engaged stakeholders feel that some personal interaction would be beneficial, they overall feel that the (mostly) online interactions were based on a very respectful and trustful environment. Some signs of technical issues and difficulties in setting up the most appropriate digital research structures were identified by actors throughout the R&I Action. Here, especially the chatbot environment was considered as difficult by some co-researchers and researchers alike.

In terms of timing and organisational settings, there were some requests for more time for the co-construction of the stories and more interaction and feedback during this period. One co-researcher commented that for the collection of micro-stories but also for the launch of the chatbot the project should only use tools that everyone knows like common messenger apps; otherwise, it would be difficult to participate. Also, the timing of the meetings was not always perfect for everyone.

Communication issues have been raised by some actors as well. For some co-researchers, for instance, the scientific objectives may have been better communicated at the start of the project, while one co-researcher requested more feedback from the research team on the topic of the co-created stories. Overall, the scientific goals and how to reach them were not always clear to everyone involved. This may also apply to some research instruments, such as the confidentiality agreement. While this is an instrument to protect mostly the privacy and personal data of the participants, it was first also keeping some co-researcher from sharing information about the project with others who could benefit from the experiences as well. For this purpose the UB team handled direct contact requests from co-researchers: if both agreed they were put in touch.

Impact



The collected data from the co-evaluation so far includes important references to the expected impact by the different actors. We identified a certain risk for some tension to arise due to the different and very high expectations voiced by some co-researchers regarding the final outcome of the project. This has become visible during the reflection session with the co-researchers, where one person stressed the importance of improving social support networks. The subsequent discussion showed that there are still different views on how such support networks should operate in the future. While some co-researchers expect an improvement as a direct result of the project, others understand that this will only be a consequence and future impact of the project, but cannot be achieved directly by this CoAct R&I Action. The practical influence of the Action is also not completely clear yet and expectations are partly pushed towards the Knowledge Coalition in this respect. We can summarise that it is not always clear what the impact will be for all involved actors and some have expressed expectations that go beyond the objectives of the project. Expectation management as to what the results of the project at the end of year 3 will be and how these results may be taken up further is thus important for the final year.

4.1.3. Co-Evaluation Roadmap Barcelona

The co-evaluation roadmap has been established for each R&I Action to help link case activities with co-evaluation tasks. It is a living document that is updated in joint sessions between the evaluation team from ZSI and the leading partner for the R&I Action. The following table is an update from the Barcelona R&I Action. As we can see from the activities below, the creation of micro stories has been a core phase of the engagement process so far:



Timeline	04/2020-ongoing	10/2020-ongoing	07/2021-ongoing	03/2022-10/2022	06/2022-12/2022
Project phase	Building of knowledge coalition	Creation of Micro Stories	Collective Digital Conversation	Collective Data Analysis	Collective Actions
Stakeholders	City Councils, Regional Government; Association of persons with lived experience in Mental Health + support organisations	Co-Researcher; process moderator; Computational Social Scientists; FSMC team; Graphic illustrator; Narrator	Citizen Scientists	Co-Researcher Knowledge Coalition	Co-Researcher Knowledge Coalition; Mental Health Assembly
Activities	<ul style="list-style-type: none"> - Invitation letters (May) - 1st online meeting - introduce the project (July 2020) - two online participatory evaluation sessions (July, Sep 2020) to discuss what is being done around social support networks in mental health, what is working well and what should work better -1 online meeting to present communication material and discuss communication/dissemination strategy of the chatbot (Nov 2021) - 1 online meeting (July 2021) to follow up on core's codesign, and present the chatbot together with co-researchers - 1 online meeting to present communication material and discuss communication/dissemination strategy of the chatbot (Nov 2021) 	<ul style="list-style-type: none"> - First contact with co-researchers (Oct 2020) - 2 plenary sessions (Nov 2020) to present the chatbot. -1 focus group discussion in small groups (Dec 2020) to explore motivations, expectations and perspectives on social support networks. - 3 co-design sessions in small groups to codesign the chatbot (Jan-Feb 2021). - 1 plenary session to share the co-design experience and results between co-researchers groups (March 2021). - 3 sessions to test the chatbot functioning, user experience and collect feedback with the co-researchers (March2021-April2021). - 2 internal launching sessions: 1 with Co-Researchers only and 1 with co-researchers and knowledge coalition (July 2021). - 1 conference abstract drafted with co-researchers (Sep 2021). - 2 conference presentations by a professional researcher and a co- researcher (Sep 2021). 	<ul style="list-style-type: none"> Small-scale chatbot launching (since July 2021). Large-scale chatbot launching (Nov 2021). Collection of data on the network of social support networks. Collective solving of dilemmas/scenarios with the contribution of more than one participant: To be defined 	to be defined with stakeholders	to be defined with stakeholders



		<ul style="list-style-type: none"> - 2 follow-up sessions to prepare official launching of the chatbot and brainstorm communication materials and strategies (including a workshop on 'communication tips') (Oct 2021) - 1 physical meeting to get together and to record a testimonial video (Nov 2021). 			
<p style="text-align: center;">Co-evaluation tasks</p>	<ul style="list-style-type: none"> - Review and add questions to letters sent out in June. - Take part in workshops - Document & reflect on expectations - Include formative evaluation session in 2nd workshop - Follow-up questionnaire for KC members (asking for desired outcomes and possible means to measure them) 	<ul style="list-style-type: none"> - Map motivations and expected impact via focus group discussion. - Collect lived experiences of social support during the co-design process. - Provide space for self reflection through a research diary. - Collect feedback on codesign sessions via online questionnaire. - Self-assessment by co-researchers and the research team during an online session moderated by ZSI - Collect feedback (questions/doubts/material/suggestions) through informal communication (email). - Collect feedback on codesign (video testimonial) 	<p>Collect impact of taking part in the digital conversation through questions in the chatbot</p>	<p>to be defined</p>	<p>to be defined</p>

Table 2: Co-evaluation roadmap Barcelona



4.1.4. Self-Assessment Barcelona

The self-assessment questionnaire (see Annex 1) designed specifically for Citizen Social Science projects, adapted from the self-assessment questionnaire by Kieslinger et al. (2018), was used as a reflection tool for each R&I Action. The self-assessment survey has been set up as an online questionnaire, run on a Limesurvey installation on the servers of the ZSI, and aims to trigger a reflection across the involved stakeholders by jointly rating a series of statements that relate to the three main areas of the evaluation framework, namely 1) science, 2) citizens & engaged actors and 3) socio-ecological aspects. In each of these three areas, we rate on a Likert scale from 0 (“not at all”) to 7 (“fully”) and reflect upon the perceived process of implementation on the one hand and on the expected outcomes and impact on the other hand.

In the case of Barcelona, the reflection was done in two settings:

- 1) Self-reflection of the co-researchers, moderator and core research team, where voices were mostly given to the co-researchers and the moderator. The discussion was led by a ZSI co-evaluation team member; the reflection was done during an online meeting on the 21.06.2021.
- 2) Self-reflection done by the core research team from UB and FSMC, both core partners of the CoAct consortium and leading the R&I Action. The reflection took place on the 04.10.2021.

In the following, we present an overview of both self-reflection exercises. The documentation of this self-reflection has been an important source for the qualitative analysis of the process and outcomes so far. As we can see from both self-assessment results, the engaged actors have very high expectations and rate the whole process as well as the expected outcomes as extremely positive, giving often the highest score. The scientific team from UB and FSMC (in Section 4.1.4.2) is slightly more critical in its assessment. They see some room for improvement in the adaptive management of the scientific process and the communication and involvement options. Both groups indicate high potentials for impact, but still have their doubts about the sustainability of the Action.

The full survey results including the qualitative considerations for the rating collected in the open fields are included in the Annex 1.

4.1.4.1. Self-Assessment of Co-Researchers

As stated above, the enthusiasm for the project and the high expectations on the side of the co-researcher has been reflected in a very high rating of the research process and even more so of the expected impact. Figure 3 below gives an overview of the combined ranking for the questions that related to the three main areas, namely 1) science; 2) citizens and engaged actors; and 3) socio-ecological aspects.



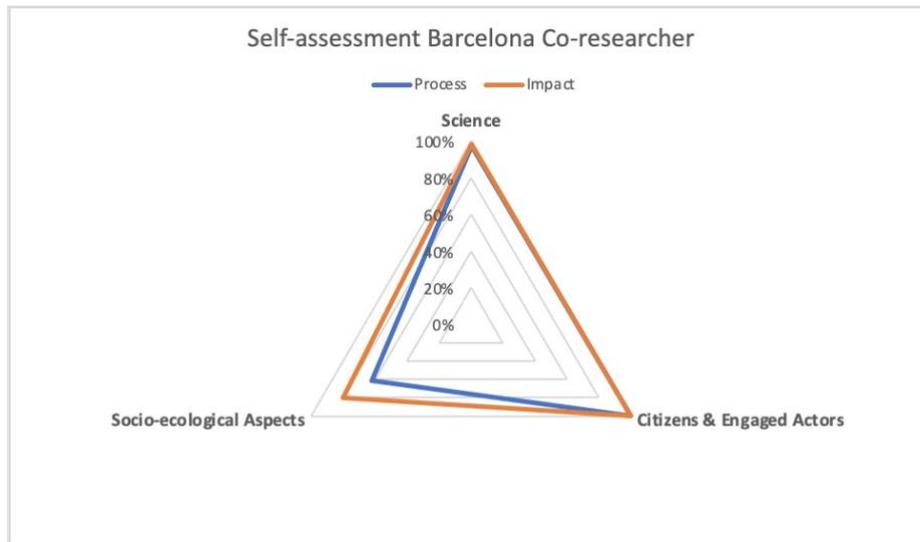


Figure 3: Overview of self-assessment ranking of co-researcher of Barcelona R&I Action

The view on the scientific process, how it is set up and handled has achieved very high scores. The six co-researchers joining in the self-assessment meeting are overall very enthusiastic about the project. They fully agree with the scientific goals and relevance. Only in terms of expectations for the future impact and uptake of the scientific results they left some small room for improvements. The collaboration with other networks and initiatives as well as the uptake of scientific knowledge is expected to be given more attention towards the later stage of the project.

When it comes to the engagement methods for the different stakeholders, the co-researchers clearly value the strong support provided by the core team, the respectful facilitation and the possibilities offered to engage at different stages. Also the materials provided for engagement, such as the research diary, have been highly appreciated. Expectations of the co-researchers of how the results will benefit their lives are likewise huge. In all of the questions relating to the engagement option and strategies, as well as the expected impacts for the engaged actors, the highest scores have been given (see Figure 3 above), underlining the importance and value the co-researchers are attributing to the project.

When discussing the socio-ecological aspects of the project, co-researchers had more difficulties in answering all the questions. For some, they wished not to give a score yet, as e.g. dissemination and outreach beyond the core group is only being launched with the chatbot as no action was taken yet in these lines when the survey was done.

4.1.4.2. Self-Assessment of Research Team at UB and FSMC

While the self-assessment of the professional research team in Barcelona has been overall very positive as well, Figure 4 below shows that there is still some room for improvement and reveals a slightly more self-critical view, especially when it comes to assessing the potential impact of the R&I Action.



Figure 4: Overview of self-assessment ranking of the researcher team of Barcelona R&I Action

The questions concerning the scientific process and how it has been set up and communicated have been assessed very positively, with some minor doubts about the evaluation concept remaining. According to the leading research team, the evaluation is mostly formative at the moment, while the concept on the evaluation of the outcomes still has to be fine-tuned and further aligned with the co-researchers. In terms of scientific impact, the team expressed their hopes for contributing to a scientific discourse on the topic of mental health and for coming forward with scientific publications co-authored with the co-researcher, but this is still to be addressed in the final year, leaving some space in terms of ranking.

When looking at the engaged actors and their involvement options, the team reflected on the dynamic manner in which the project had to react in terms of engagement of the different stakeholders. While overall satisfied with the process, they see some room for improvement when it comes to defining the role of the knowledge coalition. In terms of outcomes and impact, expectations are again very high. The professional research team has perceived the positive feedback from the co-researchers, but has been hesitant in assessing the question of personal behaviour change.

The socio-ecological aspects have been assessed with most reservations at the moment by the research team. This is mostly due to the fact that they expect more insights in the final year of the project. This relates to the broader dissemination and networking with other organisations on a wider scale, as well as to the uptake and

sustainability of the results. The team felt that it was still early to tell and thus the scoring of this aspect is lower at this point in time.

4.1.5. Indicator Matrix Barcelona

In the following, we present an updated matrix of expected outputs (November 2021), intermediate and long-term outcomes for co-researchers, knowledge coalition members, and the involved researchers of the Barcelona R&I Action. This matrix builds on a previous version, which was the result of a first reflection session with case owners during the kick-off meeting (see Deliverable 7.1 for more details on the original matrix) and further co-evaluation reflection sessions during the first months of the project. We want to stress that this matrix has been understood as a “living document,” which means it is subject to continuous change. This is especially relevant as most of the activities with Knowledge Coalition members and co-researchers have been highly affected by Covid-19 and had to be redesigned. Therefore, from the onset, we expected indicators to change, be enriched, and some of them discarded as a result of the upcoming reflections with the different stakeholders. Outputs illustrate directly measurable, quantitative results of an intervention. Outcomes are the effects of the outputs on the target group.

The following table presents the updated output/outcome indicator matrix for the Barcelona R&I Action at the end of the second project year:



	Co-Researchers & Citizen Scientists	CoAct for Mental Health Professional Researchers	Knowledge Coalition
Output	32 co-researchers identified and involved in chatbot co-design (Jan - July 2021, then somebody dropped): 24 CoRes with experience of mental health, 8 relatives, 2 double profile	<p>Developed methods on how to engage co-researchers in all research phases such as:</p> <ul style="list-style-type: none"> - cooperative approach which complement heterogeneity (of motivations, interests, abilities, weaknesses etc..) and place strong emphasis on human relationship building. - online co-design sessions with reduced groups of co-researchers to give room to everybody to feel comfortable and have a voice. - research diary to support the co-researchers during the codesign process. - informal communication channels (i.e. email) to share questions, doubts and/or material that the co-researchers wanted to share. - a web platform with private space for the co-researchers where all the session material is shared 	65 knowledge coalition members at the local (Barcelona), regional (Catalunya), national (Spain) and international levels
	146 chatbot users (before 'official' large-scale launch) (individuals with an experience of mental health, families, informal caregivers, professionals and anyone concerned by mental health)	Developed methodologies for collective data analysis; formative feedback from co-researchers and citizen scientists still needs to be collected.	<p>1 plenary session to present the projects (July 2020);</p> <p>2 participatory evaluation session to discuss what is being done around social support networks in mental health, what is working well and what should work better (July 2020 and Sep 2020);</p> <p>chatbot launching together with the co-researchers (July 2021);</p> <p>presentation of communication material and diffusion strategy (Oct 2021)</p>



	2 plenary session at the beginning of the co-design to explain the project (Nov 2020)	A set of crowd-sourced data related to social support networks in mental health from multiple sources: - lived experiences of the co-researchers which represent the very same definition of social support strategies in mental health from the lived experience. - the chatbot data (ongoing)	policy recommendations: not yet
	1 focus group session to explore motivations, expectations and perspectives on social support networks in reduced groups (Dec 2020)	New approach for Informed Consent process, including new materials (e.g. video) and a wider timescale (see Deliverable D3.2)	
	3 co-design session in small groups (5 to 12 people per group) to co-design the chatbot (Jan-Feb2021)	Developed prototypes of materials and tools based on formative feedback from co-researchers: Chatbot prototype; Research diary; CoActuem web platform; Communication material (emailing, material for social networks, animated videos) and video of co-researchers testimony	
	1 plenary session to share the co-design experience and results between co-researchers groups (March2021)		
	3 chatbot testing session to test the chatbot functioning, user experience and collect feedback with the co-researchers (March-April 2021)		
	2 launching sessions: one with co-researchers only and 1 with both co-researchers and knowledge coalition (July 2021)		
	conference abstract drafted together with the co-researchers (Sep 2021)		



	conference presentations done between one member of the professional research team and one member of the co-researchers team (Sep 2021)		
	2 follow-up sessions to prepare official launching of the chatbot and brainstorm communication materials and strategies (including a workshop on 'communication tips') (Oct 2021)		
	1 physical meeting to get together and to record a testimonial video (Nov 2021)		
	Perceived usefulness of the workshops, engagement activities, and the whole research process		
Inter-mediate outcome	<p>Self-reflections on co-researchers’ role inside mental health ecosystems: Most individuals with experience of mental health issues were strongly advocating for the importance to include the experience of first-persons when discussing mental health issues. Yet, they commented that listening to other co-researchers during the co-design sessions in small groups helped them to look at certain situations or lived experiences from another perspective, this was especially the case in 'mixed' groups (with both relatives and individuals with a mental health experience): they said that listening to the lived experience of a relative (or of a co-researcher) helped them to understand certain situation or lived experience from another angle. This was also the case for the microhistory drafting process: some co-researcher said that by putting down into words and thinking about present or past situations (and difficult moments) helps them to take perspective and acknowledge their personal growth</p>	<p>New insights about the co-research process: A) What worked well: strong emphasis on human relationship building; the research diary; informal communication channels. B) What did not worked so well: in terms of participants profiles: the majority are women, and there are no young participants (below 30 years old); also: the size of the knowledge coalition group reduced from one year to the other, maybe we could find better strategies/dynamics to engage knowledge coalition members (yet on a different levels compared to co-researchers)</p>	<p>Better understanding and awareness of social support networks: Not yet</p>



	<p>Awareness for and understanding of social support networks in mental health: In general all the co-researchers advocated for the importance of social support in mental health since the very beginning (many are part of some mental health advocacy group) so they were already aware of its importance before the project. What they did share is that during the co-design process, by listening to others' lived experiences, they learned new resources or support strategies that they were non aware of. Also, they are particularly aware of the importance that others (namely society at large) understand the importance of social support networks in mental health.</p>	<p>New insights into social impact assessment of Citizen Social Science activities: Not yet</p>	<p>Networking and experience exchange with other knowledge coalition members: Not yet implemented</p>
	<p>Higher data literacy of co-researchers: Not yet evaluated (it will be evaluated during the data analysis and interpretation phase)</p>	<p>New insights about roles and behaviour of all members of the mental health care ecosystem: Not yet (a part from reflections on co-researchers, insights about roles and behaviors of all members of the mental health care ecosystem will be driven by the chatbot data)</p>	<p>Better understanding of Citizen Social Science and how it aims to address societal challenges: Not yet</p>
	<p>Better understanding of Citizen Social Science process: certain committed co-researchers pointed out the importance of citizen social science projects in the sense of having 'their voices heard' while emphasizing the importance of understanding the research together with professional scientists who could guide them through the process. They said that it is exactly the central/organizational role and strategies of professional scientists that helped the whole process</p>	<p>Lessons learned on how to use crowd-sourced data to understand mental health care ecosystems: Not yet</p>	
		<p>Scientific publications: Not yet</p>	
Long-term outcome	<p>increased self-determination of people with mental health issues and their families and informal caretakers</p>		

Table 3: Updated output/outcome matrix for the Barcelona R&I Action



4.2. Youth Employment, Vienna

4.2.1. Setting the Scene

In this R&I Action, the involved citizen community is constituted of young people in Austria mainly between the ages of 15 and 18 who do not attend school or other types of education or training. This group has been mandated to take part in social policy measures instated to guarantee some form of education or training up to the age of majority, collected under the banner of “Education and Training up to 18” or “E&T up to 18”. While the landscape of these policy measures is diverse and rather complex, they all offer modules that are temporally limited, with groups of participants reconstituting every 3-12 months. Measures seem to be structured internally mostly according to thematic focus (e.g. health, digitisation, retail, sports, or educational courses in maths, German and English), and not necessarily according to the specificities and needs of their highly diverse target groups. While “E&T up to 18” aims primarily at supporting young people enter the first job market, the trainers within these measures need to address a wide variety of needs, and relationship building and trust are important dimensions of their work. Entering this ecosystem through institutions engaged in “E&T up to 18” measures, the goal of the R&I Action Vienna is to involve young people as co-researchers, to engage with their interests and needs, and work on the conceptualisation and improvement of new (maybe different) measures that support young people out of school with education, training, and finding work. To this end, co-researchers are engaged through Participatory Action Research (PAR), which is low-threshold and highly adaptive to the specifics of a given context and the needs of an engaged group.

In total, the team at the University of Vienna (UNIVIE) undertook four project weeks so far (Dec 2021), one digital research process during a national lockdown, and created a gamified research course via the digital app “Actionbound,” which was tested by and with young people in three distinct sessions. Core output of all these efforts were “Calls for Action,” directed towards trainers and policy makers, which are also the basis for four animated videos¹. The research interests pursued by the co-researchers included their situation with regard to the labour market; the impact of Covid-19 on their situation; mental and physical health / disabilities as challenges for entering the labour market; racism, discrimination and social exclusion; digitisation; military draft and war; and climate change, among others. These research questions were chosen because of interest, but also because co-researchers were personally affected by them. Additionally, in early 2022, 3 roundtables with young people and policy makers are planned to discuss the main outcomes of the project weeks, as well as a larger evaluation event with the citizen community. Another important project activity are regular meetings with the Knowledge Coalition (KC) and especially the trainers and social workers involved in “E&T up to 18”. These

¹ <https://www.youtube.com/channel/UCw9KE2iUG74tcLab3p16ojQ>



meetings bring together stakeholders with the potential capability to change the situation for young people in social policy measures for the better. Through these networks, the insights gleaned through the participatory research process can be addressed directly to policy makers, to adapt measures to meet the young peoples' specific needs and thus increase involvement in and reduce dropout rates of "E&T up to 18" measures. Furthermore, insights from the research process are disseminated and reflected with members of the knowledge coalition, aiming for an implementation of new measures in practice. The core activities of this R&I action are presented along the timeline in Figure 5 below.

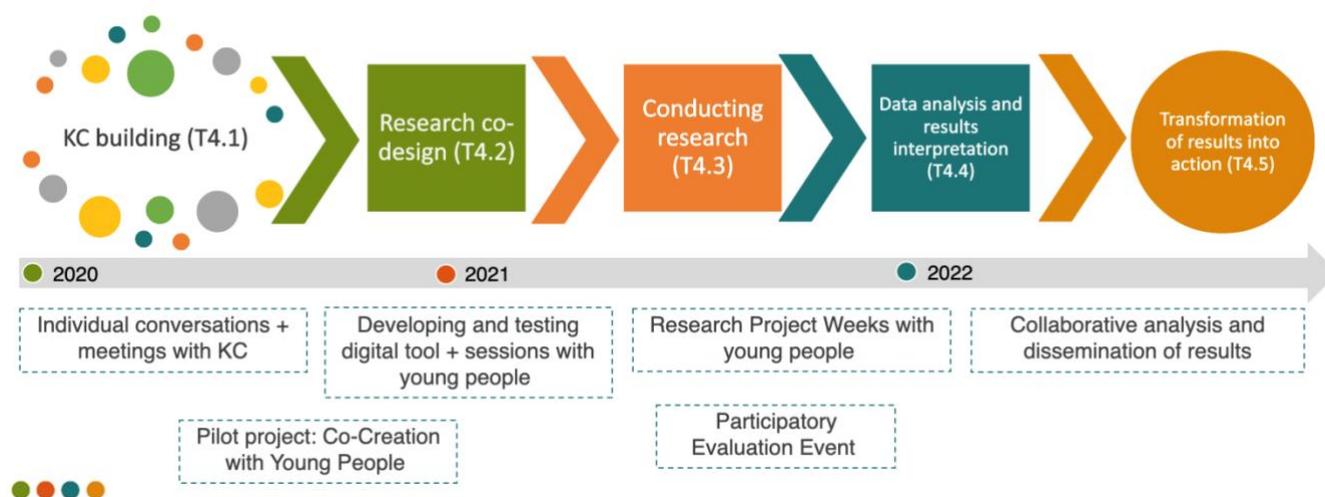


Figure 5: Research process of CoAct R&I Action II: Youth Employment Vienna

4.2.2. First Insights from Evaluation

Overview of evaluation activities

As part of the evaluation activities, ZSI took part in all meetings of the Knowledge Coalition and collected their expectations and needs in three distinct Padlets. ZSI also sent out a survey on expectations through a KC mailing list administered by UNIVIE. Because of strict pandemic measures, it was not possible for the ZSI team to directly engage with the young co-researchers involved in the project weeks. To tackle this dissociation, ZSI was included in the planning of project weeks and offered feedback and evaluation tools to employ with the co-researchers. ZSI then received access to both the collected feedback and the research diaries of UNIVIE team members. Furthermore, ZSI conducted interviews with trainers and social workers involved in each of the project weeks. To allow for a co-evaluative process, all interviewees were asked to voice their expectations, needs and wishes for the project week beforehand, which were then reflected during the interview. With the professional researchers of UNIVIE, ZSI also held several reflection sessions: once it became clear the pandemic would heavily impact the project; once after the first project week; once to conduct the self-reflection survey; and once at the end of 2021.



to reflect on the four project weeks and the current traction of the R&I Action. Additional short reflection conversations took place after each activity in which ZSI was involved (KC meetings, the digital project weeks, etc.). ZSI also reviewed and provided some input to the Actionbound. Finally, ZSI is also actively involved in shaping the evaluation event planned for early 2022. To this end, ZSI has engaged stakeholders and policy makers to collect relevant indicators commonly used to describe and understand the education, employment and training situation of youth in Austria.

Actors

The central stakeholder group of the R&I Action Vienna are the **young people engaged in social policy measures** of “E&T up to 18,” who are confronted with constraints specific to them being both underage and mandated to participate in education and training or a governmental social policy measure. Interestingly, while they all face the same social concern – not being in employment, education or training – they don’t seem to share a common goal, but rather tackle their issues on an individual basis. As a trainer notes in an interview:

“I also see that, because everyone is kinda muddling along on their own. In a class community or something like that it is different than in such an education project. There you maybe have on occasion individuals who are politically interested and involve themselves, and I don’t know, in these projects I imagine it’s less often. Because work and gaining a foothold and progressing there is more important.”

(01_Transkript_TrainerInterview)

On top of that, a lot of the young people involved in “E&T up to 18” experience significant outside pressures that complicate their situation and impede their personal development within the system. Some of these pressures mentioned by trainers and young co-researchers include bad experiences with school and the education system, as well as mental and physical stressors such as mental illness and addiction (including institutionalisation), disability, considerable socio-economic disadvantages, troubled home-lives, and traumatic experiences, but also more generally discrimination and language barriers experienced by migrants and other social minorities, to name just a few. On top of this, the overall pressures of the labour market and capitalism were mentioned consistently by both trainers and the young people who struggle to transition into an economic system set to exploit them through menial and underpaid labour. As one trainer puts it: “We don’t want for young people to end up in menial work (unskilled labour). Instead it would be better to have continuing projects, apprenticeships, ...” (2021.01.11._Padlet_Erwartungen).

As part of the co-evaluation approach, the young people participating in the project were asked regularly about their expectations towards the project, what they wanted to get out of it, and were engaged in continuous feedback loops reflecting how they felt about the project so far. As the process of a research project was completely new to all of them, the expectations they phrased were largely in manageable dimensions, such as: “That it is fun and not boring. And that we do cool stuff.” (Project week 3, Feedback 1), or: “That we learn something new ourselves” (Project week 2, photo1629130324), but they also put forth what they wouldn’t enjoy doing: “We shouldn’t have to present something ourselves.” (Project week 2, photo1629130324). These limited inputs may however also reflect how little say young people usually have in the context of these social policy measures, with calls for systematic change only emerging after intense collaborative processes. Simultaneously, it might be hard for young people to prospectively formulate expectations for a process unfamiliar to them, i.e. a small scientific project implemented through PAR methodology. While all young co-researchers were given an overview of the process at the very beginning, such theoretical inputs struggle to convey the implicit knowledge that enables the most purposeful co-shaping of a process.

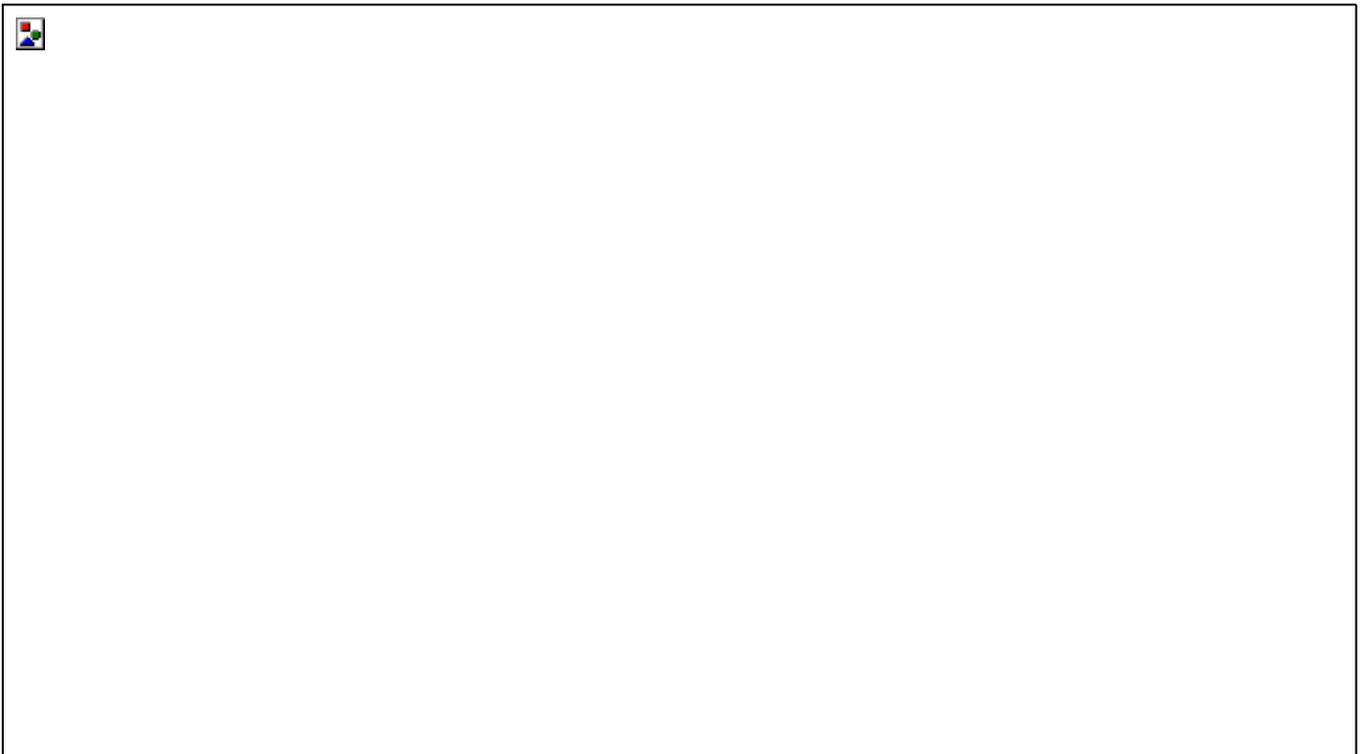


Figure 6: Some of the feedback collected from young co-researchers

The second important group of actors involved in the R&I Action Vienna are the **trainers and social workers** engaged in the context of project weeks, but most of all in activities of the Knowledge Coalition (KC). In contrast to the young co-researchers, members of the KC were quite clear about their far-reaching expectations from the very beginning, including: a call for greater insight into the lifeworlds and different needs of young people;

greater relevance of the measures for their participants; for young people to experience something new; for trainers to learn new methods of engagement; to receive some evidence to base arguments on when negotiating with ministry services; overall better conditions in “E&T up to 18” for young people and trainers alike; more networking opportunities and greater exchange between different organisations in “E&T up to 18;” and so on. Of note is that almost all trainers voiced enthusiastic support for the KC meetings, which they describe as important networking opportunities between different projects funded as part of the policy measure. However, turnout for these meetings has remained low after the first meeting, at which more than 20 members of the knowledge coalition took part at once. Furthermore, the role of some Knowledge Coalition members shifted in the course of the project, from outside experts to active facilitators to even, in one instance, co-researcher themselves. In this latter case, some tensions also became apparent between the needs and expectations of young participants and those of trainers and social workers.

“Exactly, so I had the topic [...] of whether the [public employment service] has a concept of how to deal with adolescents. [Because] I experience in my work that the [public employment service] treats adolescents very laissez-faire, not making a lot of demands or taking appropriate actions, and that is not conducive to young people as I see it.” (04_Transkript_TrainerInterview)

Similarly, another trainer pointed out: “The moment they show their face the day gets paid by the [public employment service].” (2021.09.14._Trainer_innen_Treffen), and stressed the need to find ways to motivate young people nonetheless. In contrast, one member of the UNIVIE team describes this interaction from a project week:

“Two times today I had conversations about the [public employment service], once with *Albert, *Julia and *Lukas. All were of the opinion that the [public employment service] isn’t good, that it doesn’t help them and never even answers the phone. Then once more with *Robert and *Stefan who thought the [public employment service] was especially unhelpful to young people and very disrespectful.” (2021_08_17_Scientist 2)

While there is agreement between young people and trainers that the public employment service is not equipped to deal with young people, they might at least in part disagree on what would constitute an improvement for the situation of young people in such social policy measures. At the same time, because of the close interconnection of the needs and goals of young people and trainers, it is clear that better conditions for young people towards more successful outcomes of their involvement in “E&T up to 18” cannot be disentangled from better conditions for their trainers and social workers:

“The ministry for social affairs supposedly demands that we have an occupancy rate of 95% throughout the year. As we had a calmer summer, we have to compensate for that now. If we don’t reach the occupancy rate it’s possible that our staff is reduced, and so on.” and “We also have many young people with autism. There [our] premises are also a problem, and when it’s so crowded [because we’re overbooked].” (2021.09.14._Trainer_innen Treffen)

Furthermore, the institutions implementing “E&T up to 18” represent an important access point to young people engaged in such measures, which makes them and their representatives coming together in the knowledge coalition gatekeepers on the one hand, but also possible leverage points for the CoAct project to initiate sustainable change.

The third important structural dimension of the social policy measure involved in the CoAct project are the **governing bodies**, including both policymakers such as ministry representatives, but also control groups and steering committees. This group of actors were also invited to participate in general KC meetings, as opposed to those meetings reserved solely for trainers and social workers, and engaged in additional online calls to coordinate project activities. These stakeholders are perhaps the farthest removed from the everyday lives of young people in “E&T up to 18” measures and voiced the greatest need for insight into their lifeworlds, while also pointing out their hope for the project to create an evidence-base for adapting measures to be more relevant and successful. This group showed a high willingness to engage with the project and made itself available to recurring meetings, especially with regard to the planned evaluation event as well as the roundtables. All in all, the R&I Action Vienna secured considerable institutional backing from these important stakeholders, which might be translated into sustainable institutional change in the third year of CoAct and beyond.

Finally, the **professional researchers** involved in this R&I Action were received overwhelmingly positively by the other stakeholders. In interviews, they were described as being open and flexible in their approach, adapting where necessary to meet the various co-researchers with all their needs and limitations, and working within the institutional boundaries of each “E&T up to 18” measure. Some trainers voiced doubts about how successful or effective the project weeks were going to be, and made clear afterwards that they were surprised by the way the team at UNIVIE was able to connect with the young participants. Due to the context conditions governing the field of “E&T up to 18”, the collaboration with the Knowledge Coalition was more sustainable in the sense that it allowed for the same people to be included throughout the project, in a way that was impossible for the young co-researchers. This collaboration was also more important than initially anticipated, to a great degree because it was the only activity possible when the pandemic first hit Austria. The greatest tension brought up when



reflecting about the collaborative process was adjusting the timing between various stakeholders regarding the planning and administration of project activities such as project weeks.

Research process

The team at UNIVIE took great care to tailor their approach to the needs of the young people but also the institutional logic of the social policy measures. In practice, instead of working over a long period with a relatively fixed group of co-researchers, collaboration was organised in the form of several confined project weeks where small groups of young people in different measures could experience an entire research process from start to finish. While context-specific **limitations** such as social distancing measures and time constraints were experienced as an obstacle by the academic researchers at UNIVIE, they also pointed out how their young co-researchers were overwhelmed when confronted with too many options. Therefore, offering some degree of thematic and methodological reduction was soon adopted as a beneficial strategy to provide structure and make the project more accessible. With regard to the available time resources, the format of a “project week” was perceived as too short to go into much depth in any given research topic, while simultaneously straining the ability to concentrate of most participants – although this of course varied according to the interest they showed in the entire process.

Dis-continuity was an important structuring principle of the field as well as the research process, affecting everyone from co-researchers to trainers and social workers to the team at UNIVIE but also the team at ZSI. This included the overall short dwelling time of young people in specific measures, the even shorter times UNIVIE had access to the young people, the disruptions enforced because of the pandemic that included ZSI not being able to join in person, but also a terror attack that took place on the second day of the pilot project week and forced a significant break to this specific iteration of the project. In response to this, a high degree of **flexibility** was necessary, employing various work-arounds and adaptations to the research approach. One especially significant shift was the use of digital tools to facilitate project work, such as Zoom, GoToMeeting, Skype, Teams, as well as Canva, Padlet and Miro – the latter primarily by the team at ZSI. Furthermore, the digital app Actionbound was employed as a gamified way to implement a research process from a distance. While the approach of Participatory Action Research is in itself highly flexible, it was initially not planned to limit the engagement options so drastically in the beginning. Nevertheless, the co-researchers were always given choices of topics, methodologies and tools, and were supported to make decisions by the professional researchers at UNIVIE. Mentoring became especially important when dealing with difficult or overwhelming situations, such as overly emotional or openly disrespectful interviewees, as well as emotionally charged group situations.

Finally, because of the short duration of each research process and the context of a mandatory social policy measure it took place in, feelings of **ownership** on the part of the young co-researchers remained highly



situative, bound to the context of the project weeks. As pointed out, the nature of the social policy measure, exacerbated by the pandemic, resulted in interactions with the co-researchers being mostly limited to the project weeks themselves, and all follow-up activities not materialising in the end. Another factor impacting feelings of ownership might have been the strict rules regarding data protection relevant with underage participants, which in turn meant informed consent sheets had to be signed by parents, while co-researchers could not be represented in the material the same way adults may. Furthermore, these rules also complicate the facilitation of networking activities, especially between the young people who took part in project weeks. While there was some interest voiced initially for young people to meet after the project week took place, this was foiled by a national lockdown and subsequently was too far removed from the shared activities for the young people to be of interest anymore. In contrast, some KC members and especially the trainer turned co-researcher demonstrated much higher feelings of ownership over the research process, actively asking for specific activities and outcomes to the process, for instance.

Impact

Going through an entire research cycle, even if short, seemed like a major accomplishment for many of the co-researchers, and was also phrased as a goal of the project week by some of the trainers. Other personal impacts described by trainers include for participants to gain a better understanding of their position in the world, gain confidence in their capabilities and choices, and broadly speaking leave their comfort zones to experience something new that changes their perception of themselves. For instance, one academic researcher from UNIVIE recalls an interaction with a co-researcher thusly:

“After a while, I asked her if she learned anything new from the interviews. She said no, but it was good nevertheless. Because she learned that there are many people who suffer and who have the same opinion as her. That it isn’t her problem alone, so to say, but a structural one.” (2021_08_18_Scientist 2)

Also consistently mentioned were empowerment, self-experience, experiencing themselves in another role, and for the young people to find their own voice. Here, group dynamics also played a role, as the project weeks provided for co-researchers a space to openly engage with issues often taboo or even stigmatised, to exchange on their experiences and to experience that they are not alone with their struggles. As one social worker put it in an interview after a project week took place at her organisation:

“Yes, I believe it is healing, especially if you are talking about mental illness and everyone talks rather openly or a space may open up for this topic, that can be incredibly healing, to realise: Wow, I am not alone with my experience of mobbing at school, or I am not alone that I feel upset sometimes or bad or I



can't get out of bed. Or like, the others have problems at home as well. I think it is good to realise one is not alone with these issues." (02_Transkript_TrainerInterview)

In this sense, the project weeks might have even had a therapeutic dimension for some participants. A need for this kind of attention was also directly expressed by some co-researchers, who put as a request in their Call for Action a confidant ("Vertrauensperson") be made available in "E&T up to 18" measures for young people to turn to with their problems. While trust was not mentioned very often explicitly when looking at the collaboration between academic and co-researchers, it is somewhat important to the relationships between young people, trainers and social workers in the social policy measures. In this, the work of CoAct was also seen as beneficial for some trainers themselves:

Trainer: "For myself I would count as a benefit [of the project week] that I collaborated very intensely with the two young people who I was in a group with, and that strengthens our interpersonal relationship and that was really cool for me." **Social worker:** "Yes, because our organisation comes alive through relationship work and such projects make it possible to work even closer with young people." (02_Transkript_TrainerInterview)

As the active implementers of social policy working directly with their intended target group, trainers and social workers are key actors in the system of "E&T up to 18," and as such might also represent an important lever for sustainable change. As one social worker put it, when confronted with the call for some kind of refuge at the workplace to support workers with mental health issues:

"Actually [that's] a cool idea, to take the results [of the project week] for us as an institution and check: What have you worked out and where could we implement this here, on both a small and large scale, and then further on it would be cool if it was implemented in the first job market." (02_Transkript_TrainerInterview)

So while trainers focused mostly on individual impacts for the young people participating in project activities, potential structural and political impacts were also seen as possible and desirable, and tied to the concrete lived experiences of the young people who are the main target groups for the various projects. The Calls for Action, especially as part of the four videos, were also put forth as an important tool both to reach policy makers, but also for enabling the participants of the R&I Action to develop a sense of ownership over the process and its outputs.

Finally, it is important to point out that – as is often the case with these types of interventions – any impact, especially long-term ones, are hard to measure. As one trainer puts it quite succinctly:



“[Results] are hard to measure because personal development is so hard to measure with young people. So [if the project had] measurable results, I don’t know, sorry.” (01_Transkript_TrainerInterview)

4.2.3. Co-Evaluation Roadmap Vienna

The co-evaluation roadmap has been established for each R&I Action to help link case activities with co-evaluation tasks. It is a living document that is updated in joint sessions between the evaluation team from ZSI and the leading partner for the R&I Action. The following table is an update from the Vienna R&I Action.



Timeline	07/2020-ongoing	10/2020-06/2022	07/2020-06/2022	09/2021-10/2022	01/2022—12/2022	06/2022-12/2022
Project Phase	Building of knowledge coalition	Research Co-Design including inclusive toolbox	Conducting Research	Data Analysis and Results Interpretation	Transformation of results into action	Data Analysis and Transformation of results into action
Stakeholders involved	Different Stakeholders of “E&T up to 18” such as: Ministry of Social Affairs, “Education until 18” representatives, Public Employment Service Austria, Coordination Office, Vienna Employment Promotion Fund, “AusbildungsFit” institutions (formerly “Produktionsschulen”), youth organisations and others.	Co-Researchers Coalition	Co-Researchers Coalition	Co-Researchers Coalition + Knowledge Coalition	Co-Researchers Coalition + Knowledge Coalition	In this phase the analysis and transformation into action is mainly done by academic researchers, maybe with some involvement of co-researchers who are still available to us (articles, conferences etc.).
Activities	<ul style="list-style-type: none"> - 10 semi-structured interviews with KC members - 2 Meetings with KC members (all) in January 2021 and June 2021 to introduce the research project and encourage KC members to participate in project activities in the future - 4 Meetings with social- and youth workers, trainers and other practitioners of E&T up to 18 to discuss their needs and perspectives on E&T up to 18 and results of the co-researchers activities. 	<p>October 2020 Meeting for Internal Capacity Building to develop new methods for co-creation that could be further developed during the co-research process</p> <p>2 Preparatory Meetings for Pilot Project Week with co-researcher in October 2020 to introduce the CoAct and get to know</p>	<p>Creation of the Actionbound “Actionresearch on Education and Work” as first version of the inclusive toolbox</p> <p>3 Online Talks with co-researchers in April and May 2021 on Covid-19, general wellbeing and situation in E&T up to 18 institutions.</p> <p>3 Meetings with Co-</p>	<p>In January 2022 3 roundtables will take place to bring together co-researchers and knowledge coalition members to discuss the outcomes of the research activities</p> <p>As the project weeks are organised as a whole research cycle including data analysis, in each research week also data analysis is</p>	<p>The participatory evaluation event is fostering the participation of young people in the creation, design and critique of E&T up to 18 measures. The preparation and follow-up by the research team of UNIVIE together with KC members promotes a discussion and implementation of the wishes and demands of the young people</p>	<p>The final dissemination of the results will take place through reports, articles in journals directed to those responsible of implementing E&T up to 18 measures. Furthermore, the research team of UNIVIE aims to participate at policy meetings to foster the implementation of results. The exhibition in autumn 2022 presenting all the outcomes of the research project will be organised (if possible) with co-researchers and will aim to</p>



	<p>-2 Meetings with Knowledge Coalition members about the Participatory Evaluation Event. To plan how to align the perspectives of co-researchers with the perspectives of KC members and to identify possible potential for change.</p> <p>Between December 2021 and March 2022 there will be two more meetings with trainers of E&T up to 18 institutions</p> <p>In December a train-the-trainer meeting for youth workers is scheduled to inform about the Actionbound "Actionresearch on Education and Work"</p> <p>In March 2022 there will be a follow-up meeting about the Participatory Evaluation Event with KC members</p>	<p>each other</p> <p>Pilot Project Week in November 2020 with co-researchers in an AusbildungsFit institution. The Pilot provided us with first results on how to prepare life-world oriented methods for the co-researchers. These insights were also used in the creation of the Inclusive Toolbox</p> <p>The Card Game as another version of the alternative toolbox will be reviewed by co-researchers in spring 2022</p>	<p>Researchers in May and June to try out the Actionbound "Actionresearch on Education and Work"</p> <p>One online Co-Creation session in May to try out online methods with co-researchers in May 2021</p> <p>Between August and October 2021 3 project weeks with young people from E&T up to 18 measures</p> <p>In February 2022 there will be a participatory evaluation event focusing on needs, perspective of young people in AusbildungsFit institutions and potentials of change of educational measures</p>	<p>included. A comparative analysis of all the collected data will be done until October 2022</p> <p>Together with the KC members, outcomes and data will be discussed continually as part of the meetings with social workers and trainers of E&T up to 18 measures.</p>	<p>Also the roundtables have to goal to encourage KC members to implement the outcomes of the research into their realm of work and put the wishes and demands of the co-researchers on their agendas.</p>	<p>reach a variety of stakeholders.</p>
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Co-Evaluation tasks	<p>Co-Evaluation: Definition of (expected) objectives, intended results, instruments to “measure” these</p> <p>Add questions to interview questionnaire</p> <p>Take part in meetings/workshops/events</p> <p>Survey for KC members</p>	<p>Decide on Co-Evaluation Aims and Tools with Co-Researchers,</p> <p>Co-Evaluate with Co-Researchers</p>	<p>Decide on Co-Evaluation Aims and Tools with Co-Researchers,</p> <p>Co-Evaluate with Co-Researchers</p> <p>Participate in online research sessions</p> <p>Co-Evaluation Workshop (fall 2021)</p>	<p>Reflect on the process, reflect on the results - intended and unintended</p> <p>Method(s): ?</p> <p>Evaluation Workshop Feb 2022</p>	<p>Evaluation Workshop Feb 2022</p>	<p>Evaluation Workshop Feb 2022</p>
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Table 4: Co-evaluation roadmap Vienna



4.2.4. Self-Assessment Vienna

The self-assessment and reflection exercise was done by the UNIVIE team on 19.05.2021 with two ZSI evaluation team members. As the overall rating shows in Figure 7 below, we also see an overall high self-rating of the R&I Action implementation and expected impact, with some aspects still not being fully addressed or left unassessed. The detailed ranking and answers are shown in Annex 1.3.

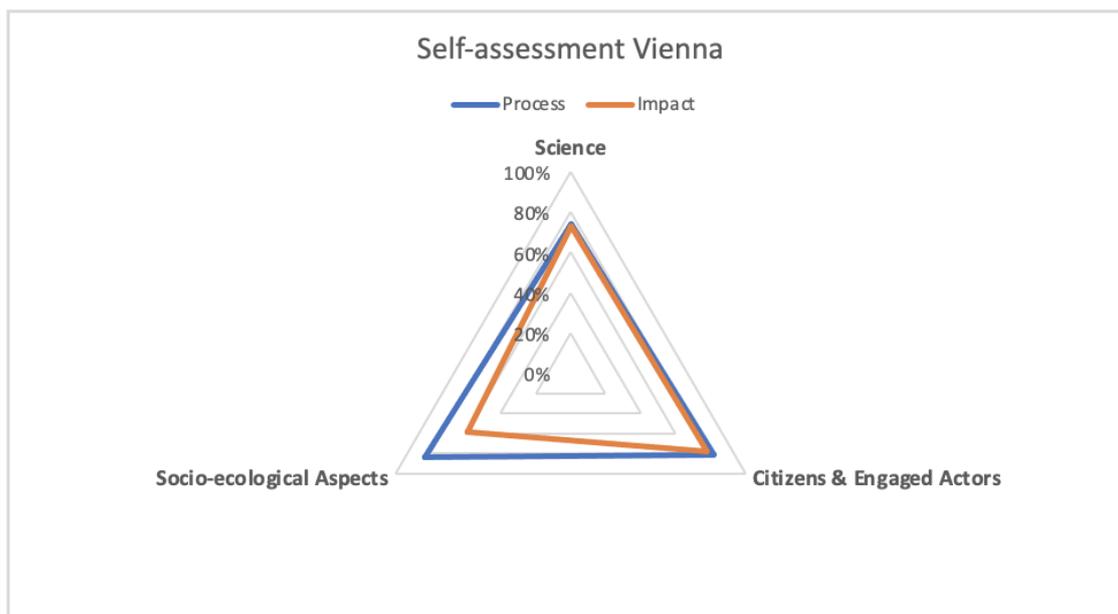


Figure 7: Overview of self-assessment ranking of researcher team of the Vienna R&I Action

The questions concerning the implementation of the scientific process have been overall rated very high. The team stresses e.g. that data privacy has a very strong focus and privacy protection is very important. In terms of evaluation, the core research team feels that while the expected practical insights for the participating stakeholders and how to assess them is clearer than the evaluation from a scientific point of view. Overall, they still see some progress being made during the project to better define the evaluation of the participatory work. By applying participatory action research in their R&I Action, the team assesses their strong interaction with the local stakeholders and the possibility to include access to local knowledge as a strong point. In terms of impact, as we have seen across the cases, there is still some uncertainty about reaching them, but expectations are clear to establish new interfaces between different types of actors and organisation, and also to achieve scientific publications.

According to their self-assessment, the research team offers a variety of engagement options for the different actors. However, in terms of communication they feel that the project should still be conveyed in more easily accessible language for some target groups. While most questions with regard to the expected impact on the

side of the participants have been rated very high, there are some doubts about the participants taking on ownership and responsibility due to the difficult working settings with Covid-19 restrictions.

The process view on socio-ecological aspects has overall been very positive as diverse media is used for communication and collaboration. Only the bi-directional communication has not yet been rated, as the project has been designed from the beginning with a closed group. The general public may be addressed only at a later stage. When looking at the expected impact on socio-ecological aspects, this R&I Action has very concrete views on which outcomes should be taken up and to what end, such as tools and methods to be used in the future for working with the specific target groups, or the fostering of participation. Therefore, the rating is also rather high and will be more concrete at the end of the project.

4.2.5. Indicator Matrix Vienna

This table show the updated indicator matrix at the end of year 2 of the project (Nov 2021):



	Co-Researchers	CoAct for Youth Employment Professional Researchers	Knowledge Coalition
Output	<p>In total: 59 young people engaged (26 in project weeks; 13 in online talks on well-being, covid-19, and education, 13 in try out sessions for the Actionbound, 7 in the online research project)</p> <ul style="list-style-type: none"> - Workshops and engagement opportunities organised with co-researchers - Perceived usefulness of the workshops, engagement activities and the whole research process - High participation - High interest and openness towards participatory process <ul style="list-style-type: none"> - Enabling a long intensive examination of a topic of co-researchers interest - Explore one's own needs and concerns and link them to a bigger societal context - Dissemination of research results as a way of voicing one's opinion - Learning new skills 	<ul style="list-style-type: none"> - Adapted Actionbound for social science research with young people - Advancing informed consent procedures with visual materials and discussions - Creating material (videos) based on co-researchers results - Developed methods and a process on how to involve underage co-researchers in all research phases - Negotiations with young people about social methods for youth employment & their adaptations - Rethinking and adopting new social methods for youth employment - Defining new methodological questions - Developed prototypes of youth employment measures and tools (also an output for co-researchers); formative feedback from co-researchers" 	<p>In total: 52 KC members in 29 institutions engaged:</p> <ul style="list-style-type: none"> - Stakeholders from different level of E&T up to 18 are differently involved in the project - Stakeholders show interest in the topics of young people - Established exchange between stakeholders and scientific researchers - Stakeholders identified and involved (policymakers, "AusbildungsFit", providers, grassroots social workers, pedagogues, WAFF - Policy guidelines and models for new social measures on youth employment - Roundtables with young people and KC members about the co-researchers results
Inter-mediate outcome	<ul style="list-style-type: none"> - Reflection on and evaluating their experiences in educational institutions - Self- confident expression of experiences and reflections - Experiencing that their opinions matter - Being author/co-creators of videos for dissemination of research results - Understanding of social structures and inequality 	<ul style="list-style-type: none"> - Learning from practice of co-creation for further CSS research - Sharing young co-researcher perspective and lifeworlds with KC members - Advocating for including the perspective of affected young people in process of evaluation and adaptation of policies - Insight into the lifeworld of youths and the needed measures to lead them to employment or alternative occupational opportunities 	<ul style="list-style-type: none"> - Stakeholders might include the perspective of young people in their work - Awareness of the challenges young people face might increase - Co-operations with KC member beyond the KC activities - Policymakers, providers, social workers, pedagogues, parents learn about the ideas & living worlds of the underage pupils of production schools - Networking and experience exchange with other stakeholders



		<ul style="list-style-type: none"> - Best practice experiences when coaching co-researchers (dealing with group dynamics, marginalisation, etc.) - Increased understanding of expectations of citizen science's ideal learning environments - Scientific publications 	
Long-term outcome	<ul style="list-style-type: none"> - Empowerment - Alternative measures and youth-appropriate offers 	<ul style="list-style-type: none"> - Demonstrated effectiveness of Citizen Social Science - Sustainable links to the knowledge coalition members - New research questions related to youth employment 	<ul style="list-style-type: none"> - Implementation of better measures and youth appropriate offers

Table 5: Output/outcome matrix of the Vienna R&I Action



4.3. Environmental Justice, Buenos Aires

4.3.1. Setting the Scene

The third pilot action is implemented in Buenos Aires, Argentina, where social activists, local residents, UNSAM researchers and FARN have initiated a co-creation process to counteract the socio-environmental risks encountered in a highly polluted residential area. Environmental agencies like CUMAR (national) and OPDS (provincial) have participated in the creation of the knowledge coalition. The citizen community involved in the R&I Action is composed of inhabitants and workers in the Matanza Riachuelo basin, which is a highly polluted area in Buenos Aires Province. The Matanza Riachuelo river ends at the southern Buenos Aires city limits. Its lower basin extended throughout the province of Buenos Aires for 64 km. There are several socio-environmental problems affecting the basin and environmental justice is not guaranteed because high risks and threats are absorbed by most disadvantaged citizens groups. The aim of the research process is to identify socio-environmental problems and social practices to address them using citizen social science tools. Actions are framed in the context of official sanitation policy and data produced during research could contribute to identify divergent patterns of desired and actual policy solutions and processes, and thereby advance clean-up policies and improve the situation of people with regard to their health and rights. Insights from the research process are disseminated and reflected with local policy agents, aiming for the implementation of the proposed measures in practice.

The participatory process in Buenos Aires has been strongly focused on the co-creation of a digital platform in the second year of the project. The co-created platform should serve as a main instrument to collect and document socio-environmental risks in the affected area and contribute to policy actions. The implementation was strongly affected by the Covid-19 situation in the country, which heavily impacted the interaction modes that subsequently had to be adapted to mostly online interactions.



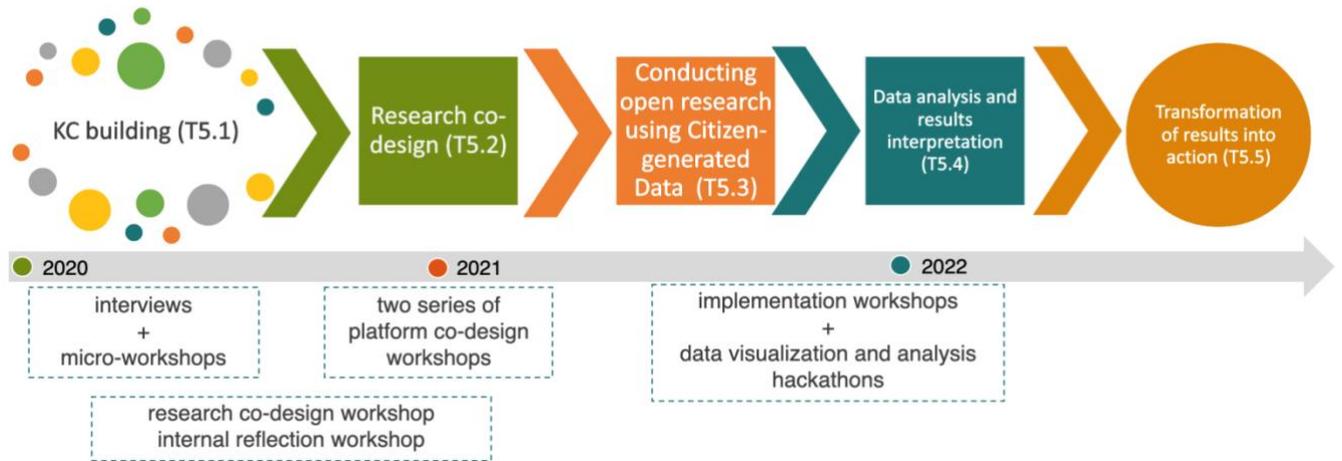


Figure 8: Research process of CoAct R&I Action III: Environmental Justice Buenos Aires

4.3.2. First Insights from Evaluation

First of all, we would like to stress that it is very important to understand the wider socio-economic **context** in which this R&I Action is embedded for further analysis. The initial interviews with experts from the field, mostly representatives from academia, NGOs and public administration, show that this R&I Action is addressing a highly complex political issue. In the past, interventions from NGOs and political actors have already been implemented to address the socio-environmental issues in the Matanza Riachuelo basin. These experiences have however not always been perceived as positive, as some of the reflections have revealed. Thus, there are some reservations from some stakeholders as to the possible changes this R&I Action may bring. The global pandemic caused by Covid-19 hit especially hard in Argentina during most of the implementation phase so far, and the research team was faced with high uncertainty in their planning as well as changing priorities for policy makers. The context in which this R&I Action is embedded suddenly changed fundamentally, and in turn priorities had been shifted for many of the involved actors.

Overall, the focus of this Citizen Social Science action is very much on collective action and societal benefits, and much less so on directly generating personal benefits of individuals. As we have learned from the self-reflection exercise with the core research team, the action is mainly dedicated to the collective and communities, not so much to the individual citizens. Nevertheless, the core research group had their doubts whether to call this process community science, as the community itself is not producing the research process; the drivers are still academic researchers from university, together with NGO representatives.

Actors

The interventions in Buenos Aires engaged a very mixed group of actors. Initiated by interviews with **experts**, mostly from an academic or environmental activism point of view, the core researcher team aimed to achieve a

deeper understanding for the planned participatory interventions, based on these expert insights. The interviewees addressed a variety of issues, including a lack of civil participation:

“In terms of the obstacles to participatory processes, the state considers that there is a structural problem, which is the lack of a culture of participation. The word of the neighbours is not hierarchical. The voices of the people have been scarcely heard throughout this process. Despite all the legal frameworks that provide for participation and much more in a judicial process, this is not appropriate.”
(Ci2 Interview Minutes)

As stated above, the engagement options for all actors were strongly shaped by the restrictions during **Covid-19** and thus mostly online. This led to less engagement by the **people living in the area** than originally expected and the whole participatory research process had to be adapted various times according to the changes in lockdown restrictions and also in relation to access to digital infrastructure / digital literacy of participating groups. According to the self-reflection notes from May 2021, the involvement options for actors were all designed by the core research team and restricted in the sense that only a selected group of participants were invited. The process has very much been steered by the academic research team, who have been adapting the options to the changing situation. Some of the foreseen activities for the first year of the project, such as the collective mapping exercise, had to be dropped and initial interaction with people living in basin was adapted to micro workshops with a limited number of participants. Interactions with the Knowledge Coalition, integrated primarily by academic researchers and policy makers but with participation of community actors too, was key during that year to guide to the Action activities. In the second year, citizens from affected neighbourhood have participated through 15 platform co-design workshops (11 virtual and 4 onsite) organised around three main themes: basin water quality; conservation of natural areas and resettlements and redevelopment plans. In total 51 co-researchers participated in these activities, most of them were citizens living in the basin. However, only few of them participated in a continuous way in this R&I Action. More citizens are expected to use the platform in the future. Low connectivity, poor digital infrastructure and emergency situations enhanced in Covid-19 times together with a general sense of disappointments from previous failing experiences, especially in some areas, have been identified as difficulties for the research process. These factors together with the economic costs of mobile data packages may also discourage people living in the basin from using the platform. However, it was not only the participants who were strongly affected by the Covid-19 pandemic. The academic research team itself was struggling with the situation as well, and suddenly found themselves confronted with a lot of uncertainty. The move towards online interaction required new skills and competencies. Team members experienced difficult personal living situations with more pressure being put especially on women who had to take on childcare (schooling activities were virtual for the whole academic year of 2020 and some months in



2021) while completing their professional role as researchers. The excerpt from the COVID-19 reflection map with the core-research team in Buenos Aires exemplifies the challenges the researchers were faced with:

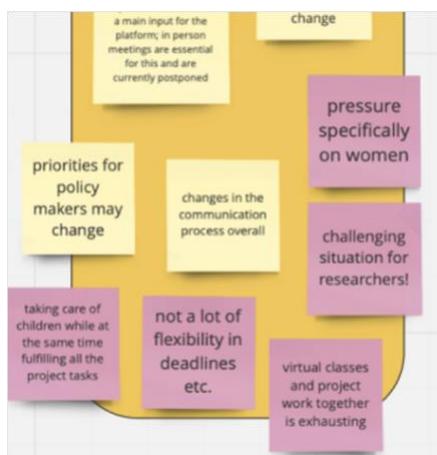


Figure 9: Reflection_Map_Argentina

In terms of engaged actors, we have seen that **NGOs** play a crucial role in this R&I Action. They contribute to shaping the research process by working closely with the core research team from UNSAM, they have access to local knowledge as they have been active in the basin for a long time, and they are expected to use and promote the platform in the future. In their activism work they have also learned how important it is to involve **public entities** in order to gain legitimacy. The importance of having political representatives participate was stressed by FARN in the self-assessment and mentioned in some of the exploratory interviews.

With the adaptive change in the research process, new alliances were established and additional actors were brought in, namely community **libraries**² (founded by community actors and funded from several sources). They have been identified as important stakeholders in the area to reach the local population and get them engaged. During the workshops with representatives from community libraries, very specific expectations were voiced. They mostly related to the libraries' interest in awareness-raising for environmental topics and overall educational aims. For the basin water quality team all co-design activities were co-organised together with one of these libraries and some others participated in activities for conservation of natural areas theme. In addition, given their geographical spread and information sharing aims the community libraries are seen as important actors to contribute to the dissemination of the platform and the overall impact of the R&I Action.

Across all the engaged actors we have identified a wish to be connected. Networking is a very important aspect in order to learn from the experiences of others and inform people who are also affected in a similar way.

² It should be noted that these are not public (official) libraries. They are called "bibliotecas populares", created by the community. They are autonomous from the State. There are also public libraries in Argentina, but these are not part of our network.

Research Process

We have found a number of considerations, expectations and doubts about the process of Citizen Science, mostly voiced during the interviews with the Knowledge Coalition members. It seems that participatory research does not have a high reputation, at least not compared to other “elite” research. One environmental scientist states that “applied research is considered of less quality and that this is one of the greatest problems. For solving concrete problems applied research is necessary. Still, in order to stay in the academic system one has to publish in high ranked journals” (Copia de Minuta Ci6, 04.09.2020). Similar arguments were brought forward across the scientific actors involved, including a request for more importance and funding for research driven by social issues (Copia de Minuta Ci12 P5, 20.10.2020).

The limitation of participation in this R&I Action was also expressed by the core research team in their self-reflection. For instance they consider it difficult to co-publish with co-researchers. Various reasons have been identified for these limitations. One of them is the fact that people living in the area are struggling with many other issues. Environmental concerns are only one of them and sometimes they are not even aware of them. Thus, for the research team – especially during 2020 - it was important to develop strategies to enable communication with the local population, by becoming involved in various community networks, such as the community libraries and other networks active on environmental issues in the basin, but the progress to get concrete input for the platform has been slow and the original plan had to be revised. The process improved in 2021, especially with the collaboration of the community libraries and this may even lead to co-publications during the final year.

What the researchers have learned during these challenging times of interventions is the need to exhibit **empathy**, especially with in the sense of social sensitivity in times of crisis. In terms of how to address this properly, it is important to not just follow the original research plan but reflect on the changing situations and the daily struggles of the people. We have seen from the face-to-face co-design workshops that physical presence of the researchers in the territory was important for more engagement and ownership by the co-researchers. Face-to-face encounters and showing empathy contribute to the building of trustful personal relationships, which are an important element of participatory research. On the other hand, the continuity of virtual meetings allowed the team not only to meet more often with the participants but also to be more aware of their perspectives, and develop trust prior to the activities that were planned which included outings and testing of the platform (which could have been discouraging for some actors less familiarised with digital tools). Another important aspect related to trust that has been voiced by various actors is the quality of the data provided on the platform. On the one hand, transparency is requested as much as possible, while simultaneously respecting personal data privacy. Participants expect that the platform is a safe space where their personal identity is not revealed, but the sources of the presented open data should be identified as much as possible. In



addition, experts expect the platform to connect with other data sources via open interfaces, showing a commitment to open science practices.

Impact

When we look at the expected impact from the various actors, we have identified the strongest expectations towards political impact in the sense of civic engagement, activism and the achievement of social aims. Resilience and activism of NGOs that contribute to achieving the expected impact have been stressed by the core team as important factors contributing to the possible achievement of these impacts.

On a more granular perspective on the expected political and social impacts, the possibility of taking legal action has been highlighted. People living in the affected neighbourhood should be enabled to initiate legal actions. Neighbours should be able to make legal claims based on the data available on the platform, leading to more advocacy by “taking legal actions to transform reality,” as expressed by a participant in the co-designs workshops (platform-expectations-codesign-workshops-2021_ES). Here again, our data confirms the important role of NGOs, who “function as spokespersons for the inhabitants and who have given a stronger voice to the neighbours,” as an interviewee expresses (Copia de Minuta Ci3, 05.08.2020).

In terms of exploitation, the co-created platform was the main goal for the research team during 2021. However, they are aware that there needs to be clear scenarios and support projects on how to use the platform to make it beneficial for the people living in the area. Some options have already been identified during the research process, especially relating to citizen science projects in the future, using the community libraries as important mediators and promoters. One aspect, related to citizen science practices, is the need for historical documentation and common memory as expressed by members of the Knowledge Coalition. People expect information and visualisation of the current status that should be collectively achieved and sustained for future generations. Next to the historical documentation, the platform should also be used for environmental protection and environmental conservation for the future. We see many expectations towards offering a space in the future for different forms of citizen engagement, including gaining knowledge about biodiversity.

Other important and prominently mentioned use cases for the future platform relate to educational purposes, including citizen science activities for young people. Representatives from the community libraries express their educational focus in the future, envisioning the platform being in use when working with schools and seeing great benefit in having data available for teaching and interventions. This is clearly seen as a main strength.

Awareness-raising is another important aspect and expectation. Bringing science to the neighbourhood, awareness-raising and democratisation of science has been expressed many times, e.g. the need to “bring science to the neighbourhood. Dissemination and democratization of science” (2nd workshop with libraries).



One of the main risks currently associated with the platform is the fear that it might get too complex and will not be used by people in the basin. Participants in the co-design process expect some difficulties in updating the map or in not finding the expected information as a risk for a wide use of the platform. Overall, the sustainability of the platform is not clear yet. This has been reflected by the core team from FARN and UNSAM, but there are already many ideas and they see it most important for the uptake of the platform to work with stakeholders such as public authorities, media, etc.

4.3.3. Co-Evaluation Roadmap Buenos Aires

The co-evaluation roadmap has been established for each R&I Action to help link case activities with co-evaluation tasks. It is a living document that is updated in joint sessions between the evaluation team from ZSI and the leading partner for the R&I Action. The following table is an update from the Buenos Aires R&I Action:



	04/2020-10/2020	10/2020-12/2021	02/2021-12/2021	11/2021-10/2022	08/2021-10/2022
Project phase	Knowledge Coalition creation, curation and research preparation	Research co-design through participatory methodologies	Conducting open research using Citizen-generated Data	Data analysis and results interpretation	Transformation of results into action and replicability to Europe
Stakeholders	CSOs, scientists, policy- makers with experience in environmental justice in Riachuelo, local neighbours	Knowledge coalition members, Co-Researchers	Co-Researchers; Knowledge Coalition members	Co-Researchers; Knowledge Coalition members	Co-Researchers; Knowledge Coalition members
Activities	<p>Expert interviews with researchers and policy makers to capture roles/experiences in the basin, priorities of socio-environmental issues and potential options of solutions. Also there were six interviews with community actors. (total 30 interviews)</p> <p>Three micro-workshops (2.5 hours) with different groups of neighbours in different locations, to map problems, actors and practices</p> <p>For UNSAM it was an interesting way for collecting information, much better, richer than a single interview.</p> <p>Online meetings</p>	<p>-Recognition workshop with the KC in October 2020</p> <p>-Two recognition workshop with community libraries located in the basin to extent our territorial network</p> <p>-Focus on three particular themes based on interviews and micro-workshops and FARN interest: basin water quality; conservation of natural areas and resettlements and redevelopment plans.</p> <p>-In the first Recognition workshop, there were discussion of the three themes in separate rooms, according to background - what they would like to know, what information would they like to access, for what is the information used, how could this contribute to daily activities (research and local action), what are current problems ahead with regard to the platform</p> <p>-Resettlement and redevelopment plans: Some population affected by environmental risks are included in resettlement plans. They do</p>	<p>- Platform co-design workshop - 2nd series, organised by theme (by end Dec. 2021; 6 virtual and 4 onsite). In conservation of natural areas: to further identify potential uses, to exploring specific functions and reflecting on the information circuit. In resettlements and re-development plans to further identify potential uses. In basin water quality: to collective planning of water quality reporting activities and review of the field guide. Testing of reporting functions of the platform through onsite activities.</p> <p>-For virtual workshops 5-10 participants per workshop, for on-site 10-20 participants per workshop</p> <p>-Participation in events organised</p>	<p>-Hackathon (April 2022); Datathon to build indicators and visualisation (September 2022);</p>	<p>Mobilisation of stakeholders to take action, based on citizen generated data and maps. Policy workshop</p>



		<p>not necessarily agree on that. A CSS approach is key in this theme because sharing information and participation are needed to find integral solutions.</p> <p>-Conservation of natural areas: in the upper side of the basin there are wetlands and green areas which are important for the basin’s biological and cultural patrimony. These create important ecosystemic benefits and allow social interaction and recreation, contributing to the population’s wellbeing. However, these areas are currently threatened by industrialisation and urbanisation activities. Thus, a CSS approach is very relevant to share information and promote participation to contribute to the conservation of these areas.</p> <p>-Basin water quality: the basin is contaminated by industrial waste, liquid effluents, dangerous residues, clandestine dumps and collapsed landfills. A CSS approach is desirable not just to share, create and discuss water quality indicators, but also to highlight the importance of the river as a bio-cultural resource. In this theme we work especially with learning organisations.</p> <p>-Platform co-design workshop (2.5 hours) - first series of workshops (5 virtual workshops, with between 5-10 participants each), to obtain impressions and suggestions of the platform and to identify potential uses of the platform and expectations</p> <p>-Co-evaluation activities changed over time. We started with a co-evaluation exercise in the last</p>	<p>by the community to let them know about our project and the platform (3 on site activities and participation in virtual course organised by a community library)</p> <p>-Implementation/training workshops: to further disseminate the platform in different locations and to train how to use it for different purposes (to be started in March 2022)</p>	
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		<p>15 minutes plus -but now always have enough time to complete it. We continue by sending feedback forms -but very few responded. We then implemented personalised calls to participants and sent messages -but they were not always very easy to arrange or to get responses and we did not always get useful information. After discussing this with the ZSI team we decided to ask one single co-evaluation question about their expectations of the platform at some point during the activities. In the water quality platform co-design workshops we implemented regular calls with co-researchers for feedback and dynamics adjustment, plus a final set of recorded interviews with all the co-researchers.</p>			
<p>Co-evaluation tasks</p>	<p>-Review and add questions to the interview guidelines -Take part in meetings if possible</p>	<p>Meeting evaluation; joint reflections during meetings</p>	<p>Collecting evidence for impact of the co-research process and mapping; possible Method(s): Observation; Questionnaires; Workshop evaluation; Interviews, focus groups; Cultural probes</p>		<p>To be defined</p>

Table 6: Co-evaluation roadmap Buenos Aires



4.3.4. Self-Assessment Buenos Aires

In this R&I Action, the self-assessment and reflective exercise was done by the two project partners, UNSAM and FARN, assisted by two researchers from the evaluation team at ZSI. It took place in an online meeting on 04.05.2021. For the presentation of the overall rating of the 3 main areas in Figure 10 below, we adapted the scale to start with 50% in order to show visually where there are still slight differences between the process and the impact level. The detailed ranking and answers are shown in Annex 1.4.

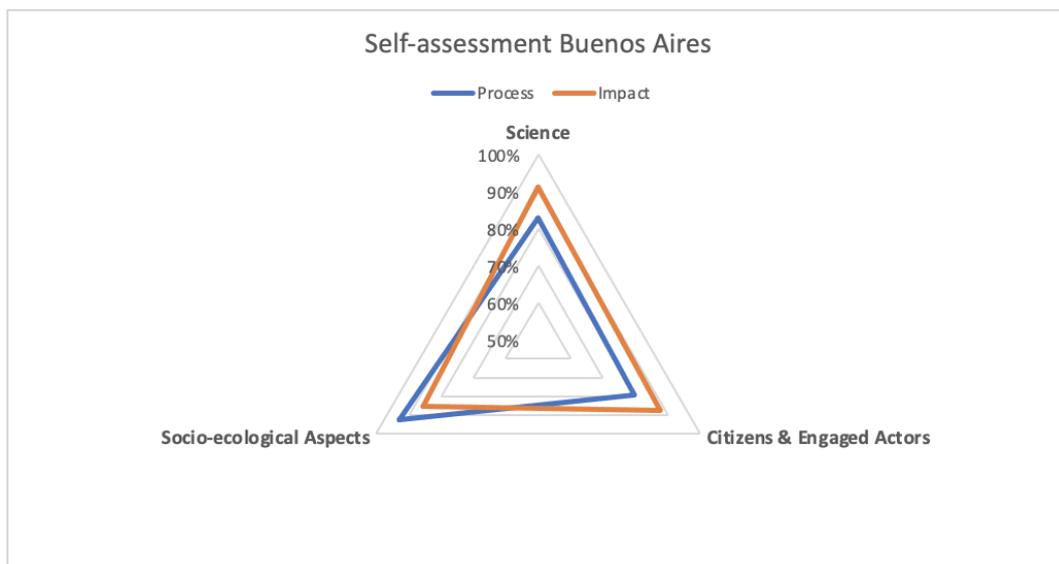


Figure 10: Overview of self-assessment ranking of researcher team of Buenos Aires R&I Action

The questions about scientific objectives and data management have all been rated very highly. There are clear processes in place and the team does not see any difficulties in implementing the defined data management. The lowest ratings have been given for evaluation, as there were still some doubts about the overall evaluation concept and more specifically about implementing a co-evaluation process. As in the other two cases, the impact on the participating scientists has not been considered in the evaluation of the R&I Action and has thus been ranked low. Nonetheless, we see that the core team has high expectations about the scientific outcomes. They expect to come forward with academic publications, but not primarily co-authored publications with the co-researchers.

On the citizens and engaged actors side, the self-assessment revealed that the involvement options for the participants are not completely open. While the team tends to offer a variety of options to get involved, the participants are contacted to participate in specific phases of the project. Thus, the rating for the questions on target group alignment has been slightly lower than the other questions. Also, an open dialogue interface is still missing, but should be addressed in the third year. The expected impact on the side of the participants has been

rated very highly, with a special focus on learning outcomes. The individual behavioural change is however less of an area of attention, with the academic researchers rather expecting a change in policy.

This focus on influencing the political discourse has also been reflected in the third area of the self-assessment, the socio-ecological aspects. In terms of dissemination and outreach, the research team still sees some room for improvement and wants to stress this further with the launch of the platform in the third year. They are already strong in cooperations and synergies with other organisations, such as the community libraries. Finally, while the sustainability is not fully clear yet, the ranking has been very high in this aspect as there are already various ideas on how to work in the future with the open source platform.

4.3.5. Indicator Matrix Buenos Aires

In the following table, an updated matrix of expected output, as well as intermediate and long-term outcomes for the Buenos Aires R&I Action is presented. It is based on the first indicator matrix presented in deliverable D7.1 and has been adapted along the progress of the R&I Action. As in the two R&I Actions before, indicators may have slightly changed, some have been enriched and some of them have been discarded as a result of the adaptations of the process and the reflections with the stakeholders, especially in light of the additional challenges experienced because of Covid-19.

	Co-Researchers and Citizen Scientists	CoAct for Environmental Justice Professional Researchers	Knowledge Coalition
Output	<ul style="list-style-type: none"> - 51 co-researchers involved in platform co-design workshops 42 additional community actors were involved in other activities. - 21 workshops organised (6 for KC building and research design and 15 for platform co-design): Workshops were an opportunity for people to reconnect in the context of COVID-19 social-distance restrictions. They were an opportunity to share experiences and to jointly reflect on socio-environmental problems, data, and potential solutions - Participation in four onsite large meetings organised by the community. - 2 videos: one to explain the IC process and another to promote the platform by reflecting on the co-design participatory process. - Micro-videos with co-researchers to let them tell their experience with CSS – in post-production to be ready early in 2022 Researchers and 2 co-researchers joint participation in a conference session. - Crowd-source data not created yet; planned to start in 2022 	<ul style="list-style-type: none"> - Participatory methodologies inspired by human-centred design. - Development of a toolkit on CSS planned - Co-designed three questionnaires for data collection in three themes - Co-designed field guide protocols for water quality theme - Platform prototype, expected to be alpha version in December 2021 <ul style="list-style-type: none"> - Two blog notes and one video to disseminate the project. 3 conference presentations (1 at ECSA and 2 at CIACIAR (Argentinian Congress of Open and Citizen Science), one of which together with co-researchers) - Integrated scattered public databases in the platform, relevant for the specific themes, as defined in co-design workshops - Organisation of a session about co-design activities in vulnerable con.text during Covid-19 times as part of CoAct summer school - Participation in a conversatory about Citizen Science organised by a network of universities working on outreach activities for environment and inclusion - UNDP and UNESCO gathering to discuss about the potential of citizen science for transformation - The R&I Action has been included in a map developed by UNDP on citizen science initiatives on environmental topics. 	<ul style="list-style-type: none"> - News disseminated through UNSAM and FARN websites. - Landing page for CoAct in FARN website under development - Policy briefs (not yet developed) - Policy advice in a National Committee to the Government on Open and Citizen Science, recommendations about citizen and participatory science



<p>Inter-mediate outcome</p>	<p>Still valid indicators:</p> <ul style="list-style-type: none"> - Capacity building, increased knowledge - Engagement, Mobilisation - Data literacy <p>- A tool to be used for the new Law on Environmental Education as one of the platform themes is very much oriented towards pedagogical use</p> <p>- Platform as a tool for making widely visible some relevant and urgent issues affecting the community in the basin (this information is seldom published otherwise).</p>	<ul style="list-style-type: none"> - Scientific publication (in press) to be published in Citizen Science: Theory and Practice about building participatory infrastructure. - 2 publications in progress - Learn lessons on how to successfully organise research processes involving citizens in all phases of research. - Toolkit for participatory actions (to come) - Open crowd-source dataset (to come) - Platform and co-produced knowledge for promoting the need of building new community based indicators on socio-environmental issues 	<ul style="list-style-type: none"> - Capacity building of the knowledge coalition members - Increased acceptance of citizen expertise by authorities (via planned hackathon/datathon and policy workshop)
<p>Long-term outcome</p>	<p>Still valid indicators (not achieved yet):</p> <ul style="list-style-type: none"> - Improved quality of life and community engagement in knowledge production activities and in policy processes. - Collective knowledge production processes and outcomes contribute towards social cohesion in the basin. While people working for the basin consider it as a single territory, at the jurisdictional/ regulatory level it is very atomised (nation, provinces, municipalities, etc.) - The platform and the new website will be a channel for contact points. 	<p>Still valid indicators:</p> <ul style="list-style-type: none"> - Validity of Citizen Social Science models for policy making - Sustainable links to the knowledge coalition members - New research questions related to social risks mapping and citizen science practices 	<p>UNSAM initiated steps to create an Ethical Committee.</p> <p>Still valid indicators regarding impact on policy (Implementation of recommendations on how to improve the sanitation policy Changes of regulations)</p> <p>The information produced in the platform may provide support to legal complaints - if it becomes a legitimate data source.</p>

Table 7: Output/outcome matrix of the Buenos Aires R&I Action



4.4. New Citizen Social Science Spaces: Gender Equality

At the time of writing, the three open calls for Citizen Social Science projects focusing on gender equality have been closed and the selection process is about to finish. The review criteria for the selection of the projects included a question about the evaluation strategy, and projects were encouraged to present a participatory evaluation and impact assessment strategy. The selected projects are requested to participate in the facilitation activities provided by CoAct as a requirement for receiving the funding. These facilitation activities include co-evaluation activities, such as citizen scientist feedback exercises, defining and co-creating Key Performance Indicators (KPI) and attending an in-depth self-assessment interview close to project completion.

Thus, the current plan is to create an initial awareness across the selected project for the co-evaluation approach and support the projects in setting up their co-evaluation activities, which might be very limited due to the budgetary limitations of the selected projects. Finally, we will engage them in a self-assessment reflection on the process and expected outcomes of their projects. Ideally, these self-reflection exercises would have a participatory character by involving not only the leading researcher, but also co-researchers and possibly additional relevant stakeholders. We will follow up on the evaluation and impact assessment of these actions in the final deliverable D7.4 Final Impact Assessment Report.

5. Cross-Case Analysis

Next to the individual insights from each of the cases, which we discussed in detail in the previous section, we also performed a symmetrical, comparative analysis across diverse types of stakeholders and engagement processes based on the data sources obtained by each of the cases. The following methodology section describes the various data sources we used for describing the first findings in each of the cases, as presented above and in the following cross-case analysis.

5.1. Method

The evaluation activities performed during 2020 and 2021 serve as the main data sources for the analysis. To understand “participation in the making” (Chilvers et al., 2016) and issues at stake in Citizen Social Science, we follow the positions and valuations of actors over time with a range of methods: interviews, participatory observations, group reflection exercises, self-reflection surveys etc. Triangulation then involved combining those different types of data, and data collection methods to incorporate different approaches to answering the research question, namely how can we implement participatory evaluation in Citizen Social Science



projects, what are important elements and commonalities in the process and where are the limitations. A detailed overview table of all the data sources that we included in the analysis is provided in Annex 7.

For our data analysis, we were mainly using a hermeneutic approach to qualitative content analysis, a method that helps us to order and structure manifest and latent content in and across our transcripts and text based data collections. We are referring mainly to Mayring (2014, 2019), who has co-developed the method since the early 1980s in the tradition of objective hermeneutics and grounded theory. At the centre of the analytical process is the systematic coding of text material. Our focus of the coding was on a qualitative interpretation of the data, even though quantifying analysis can be applied in a supportive manner, e.g. for visualisations.

In the coding process a team of four researchers was assigning categories to the data material and thus breaking down the research question. On the one hand, the work was done deductively alongside the category system developed on the basis of the citizen science evaluation framework (Figure 11), which was presented in Deliverable 7.1 (Schäfer et al. 2020). On the other hand, the categories also emerged from the data material (inductive).



Figure 11: Citizen Science Evaluation Framework by Kieslinger et al., 2018

Codes are described in memos to permit a constant, observable, and intersubjectively comprehensible procedure and let the analysis be substantiated by the material. In cycles of communicative validation, we compared our coding, newly emergent codes, and code documentation, and over time by discursive agreement harmonised our individual inductive coding into a coding scheme adapted to all material in the corpus. The analysis resulted in a large number of different categories, not all of which we can present here. However, below we will describe some of them, which represent particularly unifying but also particularly different aspects of the cases we examined, in greater detail.

The researchers involved in the analysis and main authors of this manuscript are female academics at the Centre for Social Innovation in Austria, bringing in interdisciplinary perspectives, with an academic background spanning the disciplines of sociology, pedagogy, and economy. They interacted with the local research teams in each of the three pilots, guiding them on how to implement a co-evaluation approach and have partly been interacting with the local research teams themselves by e.g. attending relevant meetings or conducting interviews. Partners were instructed to follow a basic set of co-evaluation principles, such as a commitment to openness and reflexivity, flexibility, documentation, and transparency, to ease the interaction across all involved actors.

All participating actors across the cases were briefed about the specific aims of the pilot action, as well as everyone's role and responsibilities in the first step towards engagement by the local research team. For participatory evaluation in Citizen Social Science, the informed consent procedure is essential. This goes beyond being a foundational principle of research ethics in general. The informed consent is the only contract between researchers and participants that defines or at least refers to the rights and responsibilities of all stakeholders. Especially for participants in vulnerable situations it is important that not only their work for the project, but also their evaluation activities are treated with the right balance of confidentiality and openness towards the project. The informed consent information and forms were provided in the local languages of each pilot and are administered by the local research partners.

5.2. Results

Taking the original framework for evaluation and impact assessment in citizen science (Figure 11) as the starting point structured our analysis in a way that offered valuable insights into the three dimensions of: 1) science; 2) citizens and participating actors; and 3) socio-ecological/economic systems. As the pilot actions are still ongoing we identify common elements, success factors, and challenges that influence the process of implementing participatory research driven by social needs. We do however also find many indications about possible impact and what factors could be drivers or barriers for achieving it. While the original structure of the evaluation framework was very helpful in approaching the data, the combination of inductive and deductive data analysis led to a slightly different structure for grouping the insights gained so far. Thus, we will arrange the discussion of our analysis along three focus aspects, namely the scientific process, the engaged actors and their roles, and the expected and already achieved impact, followed by a general reflection on challenges and limitations.

5.2.1. Scientific process

As pointed out above, Citizen Social Science directly addresses societal issues. It is a type of problem-driven research that puts **societal problems in the focus** and aims to offer detailed insights from and with the point of view of affected populations, contributing to potential strategies to overcome these issues. We have come across many instantiations in our data of how strongly the scientific goals are rooted in daily lives of the co-researchers, addressing personal concerns or societal disadvantages, illustrated by this statement from a co-researcher during a reflection session: “All scientific objectives address socially relevant problems very clearly. This was an important motivation to participate.” (Summary-BCN_Selfassessment_co-researcher)

Clearly, the specific research questions are shaped by the social issues at stake, which can be identified as a core element of a Citizen Social Science project. More abstract or theoretical scientific objectives are less visible in communication and motivation than the specific concerns, confirming a strong problem-driven approach. This focus on social concerns however also resulted in a less clear understanding of the scientific nature of the actions. Across the cases the core research teams confirm that they had difficulties in clearly communicating the scientific goals. In the communication with engaged actors mostly the specific issues are addressed, and the scientific objectives less so.

When looking at the **engagement options** that are offered to the different stakeholders, we find a big variety across the cases. **Covid-19** restrictions have clearly been a great challenge for any type of engagement. But more than moving activities from physical to digital spaces, it also had a strong impact on the daily lives of the actors. Thus, the challenges of dealing with the pandemic also had to be considered as a topic in and of itself. At the same time, for any sort of active engagement we have seen that it is very important to create an atmosphere of **trust**, which faced additional challenges due to the restrictions of the pandemic. Next to establishing trustful relationships across the actors, we have also noted that showing **empathy** for individuals and their personal contexts is strongly influencing the engagement process. Our data shows that co-researchers, who are actively involved in the research process, appreciate the recognition of their expertise, their abilities and their different perspectives. Also, recognition of power differentials between the actors and an explicit acknowledgement of the lack of certain skills or knowledge on the side of the research team or by additional facilitators has been perceived as beneficial for the process.

While the collaboration with the core participants was quite intense during the implemented project phases so far, **cooperation and synergies** with other initiatives have still not been fully exploited. This could be



interpreted as a rather common way of communication and collaboration in research projects. During the first phases, the process is focused on setting up collaborative structures and building relationships with the core actors. The research teams are being concerned with their own process, which is already often much more time and resource intensive than originally envisioned. And only in the more advanced phases of the project the outreach activities and the networking with other interested parties are planned. Nonetheless, we find that in the context of Citizen Social Science projects, the cooperation with non-governmental and civil society organisations are highly relevant and a strong success factor for the whole engagement process. These organisations are often rooted in the communities and play an important role e.g. in the recruiting of the participants. We will further elaborate on the role of NGOs and CSOs below.

When analysing the different elements of the scientific process what is least clear for all engaged actors, including the professional researchers, are the **evaluation** concepts and how to implement them in a participatory process. We have seen in self-assessment exercises that the cases already struggle with defining clear scientific evaluation strategies, which might be due to the fact that they are driven by social issues and less so by scientific objectives. We experience an even greater challenge with implementing the concept of co-evaluation. Although the defined principles of co-evaluation are widely appreciated, the difficulties arise mostly in how to apply them in concrete settings. It requires a very flexible and responsive process and a strong commitment from the co-researchers, not for the research process itself, which is clearly given, but specifically for the evaluation. When speaking about evaluation in the specific case settings we have noticed a certain discomfort or fear of being evaluated.

A relevant finding for the scientific process implementation is also the support and commitment towards **open science practices**. Actors across the R&I Actions stress the importance of open data sharing, while keeping privacy of personal data. Especially the pilots that aim to generate digital tools, such as the platform in the case of Buenos Aires or the chatbot co-created by the team in Barcelona, emphasise the importance of open interfaces and data sharing beyond their research group.

In terms of expectations for the research process we have also come across a general interest in Citizen Social Science as a method. As this form of participatory research is still not very widely recognised, at least in certain cultural contexts, we have noticed some genuine interest in the method itself and some of the actors, mostly those with a scientific background, consider the approach experimental from a methodological point of view.

5.2.2. Actors and their roles

In participatory research and its evaluation, we often speak about participation, involvement or engagement of participants. These terms are often used as synonyms, although we also see an effort to clarify the distinction between these concepts, especially in biomedical research, where citizens are also the subject of the scientific process (Woolley et al. 2016). The UK National Health Service's INVOLVE3 agency distinguishes for example between the three activities – involvement, participation, and engagement – in order to stress the various valuable roles citizens can play in research, and to distinguish between the perspectives of the public and the perspectives of people who have a professional role in health and social care services. In our Citizen Social Science activities, we have likewise come across a wide range of engagement, participation and involvement strategies. While it is less important for us to draw a clear line in the terminology of these activities, we would like to stress that the degree of participation is closely connected with the identification of the social issues at stake and the different modes of ownership. Participation, namely the active contribution to the research process, requires time and commitment on the side of any participant, and these temporal and resource-related aspects need to be considered and accepted. While some actors stay throughout the whole research process, others are only temporarily engaged and contribute to certain phases only.

When having a closer look at the actors who commit to Citizen Social Science, their motivations and expectations, our data confirms this strong link to the problem situation. They are either directly affected and tend to take strong ownership of the problem, mostly in the case of the co-researchers, or they are stakeholders in the system that is dealing with the specific issue, such as the Knowledge Coalition members. In the case where the topics are more, open the range of engaging actors is also wider. However, in turn the commitment seems to be weaker. Important actors and the main drivers of the whole process across our cases are still the professional researchers, often working closely with a CSO or NGO, to design the participatory activities and oversee the entire research process. While in the case of the CoAct R&I Actions this could be partly due to the funding scheme, which allocates resources to institutions who commit to tasks along a rather strict project outline, we also see that there are some changes in the roles that the professional researchers take on. Citizen Social Science requires additional skills and competencies to facilitate the participatory process, to communicate in adequate ways with the target groups and to manage expectations. While some researchers take on these additional roles of facilitator and communicator, we also see benefits in adding new actors to the process who take on these roles.

³ INVOLVE: What is public involvement in research?. <http://www.invo.org.uk/find-out-more/what-is-public-involvement-in-research-2/>. Accessed 14 Dec 2015.



Even more dynamic than the roles of the professional researcher are those of the other participating actors. While departing from three rather clearly defined groups of actors, namely the professional researcher, the co-researcher and the Knowledge Coalition member, the roles have changed for many of these actors during the participation process as new relationships have emerged. In the case of Vienna and Buenos Aires, we see a growing role and increased ownership on the side of Knowledge Coalition members, who also gradually engaged more and more in the research process. They might even become a new co-researcher community. In Barcelona, we experience a strong community emerging from the interaction of the co-researchers. In this case, they also show a growing level of ownership for the whole research process and take on a growing set of tasks and responsibilities. Some of the co-researchers even become core researchers as they take ownership of the research process, including research data analysis or participating in academic dissemination activities.

5.2.3. Impact

As the three case actions are still in progress, we have more evidence about the process implementation than any concrete impact. However, most actors already have quite high expectations when it comes to the potential impact of their Citizen Social Science activities. Overall, there are strong expectations to achieve societal impact, ranging from empowerment for disadvantaged groups and an increased citizenship to more awareness-raising for the topics of concern. However, the degree of empowerment that can possibly be achieved in these specific actions varies greatly across the cases and is dependent e.g. on the degree of involvement of the co-researcher and their motivation for participation.

Across the cases, we also see that there is a variation in the focus of attention when it comes to defining the impact level. While in the Buenos Aires case the community gains are clearly in focus (community level), the data from the Barcelona case holds more reference to the personal gains and a de-stigmatisation of the affected population (individual level). Similarly, in the Vienna case references towards personal gains predominate, although there is also some reference to sustainable institutional change to positively affect actors on all levels. Interestingly, in this case the improvements for the citizen community of young people are tied closely to improvements in the working conditions of trainers and social workers, who make up a large part of the Knowledge Coalition. Such personal impacts may entail learning and, more generally speaking, the educational goals that the activities pursue. There are clear indications in all cases that increased knowledge and skills on the side of all actors are envisioned, and we already have some evidence that learning has taken place at individual level. As some of the topics of the R&I Action touch on highly personal and emotional subject matters to the involved citizen communities, a previously unforeseen

personal impact was described both in Barcelona and Vienna as the “therapeutic effect” the community interactions within project activities had on some participants.

Finally, awareness-raising beyond the cases, for the specific topics as well as for the method of Citizen Social Science, has been identified as an important impact that actors aim to achieve. This is closely connected to the wish of establishing connections and networks with other organisations that deal with similar issues, beyond the national borders. As we have seen, the co-operations and synergies with other initiatives are still not fully exploited. The partners from the case actions are still rather in the phase of setting up wider collaboration structures and are planning to reach out at a later stage of the project. However, as we have also pointed out, the collaboration with CSOs and NGOs at small scale has already proven to be highly valuable.

5.3. Discussion

Overall, we have seen both very promising and challenging aspects of the implementation of co-evaluation principles. Promising observations include the establishing of trustful relationships across the actors or the flexibility in adapting the engagement options to the needs of the engaged stakeholders as well as to the challenges caused by the Covid-19 pandemic. However, we have also experienced some difficulties with co-evaluation in all three R&I Actions, although to different degrees and for different reasons. In Buenos Aires, for instance, the participants have a voice in the research design, but are less actively involved in the evaluation, as stated by the team during the self-assessment (“participatory evaluation is very difficult and not well elaborated yet; it is something that we have in mind, but it is difficult to implement”). In Vienna, one of the challenges for taking ownership of the process, including an evaluation perspective, is the short period co-researchers, namely the young people, are engaged in the whole process. And in the case of Barcelona, the core group of researchers is very active and engaged in all phases of the project, including evaluation, while the other relevant stakeholders from the Knowledge Coalition are less engaged compared to the other two cases, which means we have less traces of co-evaluation of this group.

For the research team at ZSI, which is coordinating the co-evaluation approach of the project, it was not possible to join the partners on site for co-evaluation activities due to the Covid-19 pandemic. Therefore, we were not always able to implement the “co” in co-evaluation to the extent as planned. Some activities initially seemed more like external evaluations. However, face-to-face interactions were in any case very limited in all three R&I Actions. As the evaluation team, we had to integrate our activities into the online interactions with the project stakeholders. Not all partners in CoAct shared the same information with us due to privacy data protection, and the level of access to the project’s Knowledge Coalitions and co-



researchers differs widely across the R&I Actions. Most information is anonymised, however fully anonymised data make it hard to follow up for further co-evaluation activities, and they therefore complicate the participatory process. Furthermore, for the development of evaluation criteria it is also necessary to discuss data sharing policies early on with the participants, some of which do need special data protection, such as youth, politically exposed people, or patients. Given the additional challenge of language skills, which means that participation in local activities is also restricted due to language barriers, it is important for all to rely on well-established collaboration structures and continuous reflections and adaptations.

Furthermore, as indicated above, the evaluation as implemented so far was mainly formative/process-based, which allowed for a high degree of flexibility and adaptation of the process to very fluid and often challenging context conditions. In this sense, in year three we want to further strengthen the interactive exchange between R&I Actions based on the evaluation interim results or tools, which includes the interpretation of data both within and across the three R&I Act. To this end, data literacy will be an important skill to communicate to all involved co-researchers, although the types of data in question differ greatly. Moreover, in the final year of the CoAct project, the transformation of the work in the R&I Actions into various outputs such as policy briefs, white papers, and more concrete Calls for Action for policy makers and others with the power of enacting sustainable change will come into greater focus. This shift will be supported by ZSI through guided reflections with and focused feedback to the R&I Action teams. As another effect of this, the focus of WP7 will also shift towards summative/outcome-based evaluation towards the end of the project runtime.

6. CoAct Indicators Set

6.1. Key Performance Indicators - KPIs

Next to the specific indicator matrix for each of the R&I Actions, we also defined a set of KPIs that will be gathered across the R&I Actions and can be regarded cumulatively as general project KPIs. The three indicator tables above, each corresponding to one of the three R&I Actions, all feed into achieving these general KPIs. These were pre-defined during the project set up and have already been presented in deliverable D7.1 (Schäfer et al. 2020). The following table shows an update of the KPIs at the end of the second project year. The numbers in bold indicate the already achieved numbers, while those in () are the numbers to be expected by the end of the project.



	Co-Researchers & Citizen Scientists	CoAct Professional Researchers	Knowledge Coalition
Output	154 (+250) co--researchers engaged in CoAct R&I Actions 59 (+70) co--researchers trained on (open) data literacy	3 (+3) inclusive and open tools created for Citizen Social Science practices, left open in GitHub/Zenodo and CoAct website	109 (+15) public bodies and institutions effectively engaged in R&I Actions 2 (+2) new digital platforms for collaborative Citizen Social Science created and left open in GitHub
Outcomes	(+70%) of co-researchers interested in further participating to R&I processes (+70 %) of co-researchers felt that they really contributed to the research and innovation process	(+5) Open Access scientific papers with co-researchers as co-authors 2 (+4) conceptual scientific Open Access papers, based on CoAct methodological framework 10 (+15) CoAct presentations at international scientific conferences, left open in Zenodo	(+3) actions plans or better or new policies measures proposed 3 (+20) public and/or scientific conference presentations of results made by co-researchers, left open in Zenodo and CoAct website

Table 8: CoAct KPIs

The R&I Actions have been contributing to these KPIs differently, as they are set up in very different contexts, work with different target groups and address highly diverging topics. Thus, directly comparing the impact of the different R&I Actions will not be possible. This has also become visible from the qualitative analysis, as we have seen that the cases vary strongly from more personal impact to a more collective view. The following qualitative R&I Action indicators allow us to understand outputs and outcomes from each action in more detail and see which R&I Action impacted the participating co-researchers, professional researchers and coalition members in the short- and long-term.

6.2. Co-Created R&I Action Indicators

In Chapter 4 we introduced the outputs, intermediate, and long-term outcomes that we expect from the Citizen Social Science activities, addressing co-researchers, professional researchers, and Knowledge Coalition members for each of the R&I Actions. Since its first version presented in deliverable D7.1 (Schäfer et al. 2020), these indicators have been co-created and discussed with the various stakeholders, including their expectations and desired outcomes from their involvement in the CoAct project. The following table shows an update of the co-created, mostly qualitative, CoAct indicators across the three R&I Actions at the end of the second project year. For the indicators in bold we already have evidence from the cross-case analysis presented in Chapter 5 above.





	Co-Researchers & Citizen Scientists	CoAct Professional Researchers	Knowledge Coalition
Output	<p>Engagement of identified and involved co-researchers</p> <p>Workshop and engagement opportunities organised; active engagement of co-researchers</p> <p>Perceived usefulness of engagement activities and research process</p>	<p>Developed methods and a process how to involve citizens in Citizen Social Science; formative feedback and practical experience</p> <p>Developed prototypes, tools and materials that help to investigate the research topic</p> <p>Crowd-sourced data</p> <p>Open discussions on social problems and potential solutions</p>	<p>Knowledge coalition members identified and actively involved; workshops, interviews & bi-directional meetings, other engagement opportunities organised;</p> <p>Perceived usefulness of workshops and involvement activities</p> <p>Policy briefs and guidelines</p>
Inter-mediate outcomes	<p>Capacity building, increased knowledge</p> <p>Engagement, Mobilisation</p> <p>Awareness, consciousness, understanding of the topic under research</p> <p>Higher data literacy</p> <p>Better understanding of Citizen Social Science processes</p>	<p>Richer expertise on the case-specific social topic under investigation</p> <p>Lessons learned and experiences on Citizen Social Science processes (what works and what does not work)</p> <p>New insights into social impact assessment of citizen social science activities</p> <p>Scientific publications</p> <p>Open Data publication</p>	<p>Capacity building of the knowledge coalition members</p> <p>Networking and experience exchange with other stakeholders</p> <p>Acceptance of citizen expertise by authorities; learning about the living world of citizens.</p> <p>Better understanding of Citizen Social Science and how it aims to address the selected societal challenges</p>
Long-term outcomes	<p>Empowerment</p> <p>Decision power</p> <p>Self-determination</p> <p>Improved quality of life</p> <p>Alternative and appropriate measures that address the case-specific social challenges</p>	<p>Validity of Citizen Social Science models for policy making</p> <p>Sustainable links to the knowledge coalition members</p> <p>New research questions related to the topic of research and citizen science practices</p>	<p>Implementation of new tools and strategies to address the case-specific social challenges</p> <p>Changes of regulations</p>

Table 9: Co-created R&I indicators

7. Capacity beyond the Project

Next to the internal evaluation activities, we also reached beyond the consortium to exchange experiences with the wider citizen science community on participatory evaluation. Various events in different formats were organised, as well as a call for papers in a special issue. Here, we briefly elaborate on these capacity building activities. More details can be found in Annex 2-6.



7.1. CoAct Webinar: Co-Shaping Evaluation in Citizen Science?

On 27 January 2021, the ZSI team organised the first public CoAct webinar: *Co-shaping evaluation in Citizen Science? Towards more participatory approaches in evaluation of Citizen Science* in cooperation with ECSA and the EU-Citizen.Science project. As guest speakers were invited:

- Anna Cigarini, University of Barcelona, CoAct project
- Johannes Jäger, IEA Paris/Paris-Saclay
- Obialunanma Nnaobi (Vilsquare)
- Katie Richards-Schuster (University of Michigan)

Participatory evaluation is an approach that aims at giving voice to the stakeholders of an intervention in its evaluation design, process and results. This webinar shed light on the specificities of this methodology, as well as challenges and opportunities related to its application in Citizen Science. The aim of the webinar was to furthermore provide an overview on co-evaluation as a strategy and to discuss which respective approaches and options have been available for a long time in participatory research and Citizen Science, how they have been received, what opportunities they have opened up, what obstacles have been overcome, but also what we can learn from them for the future.

To this end, the webinar started with an overview about the state of the art of evaluation (participatory and non-participatory) in Citizen Science, followed by the presentation of core principles of co-evaluation. Then, the participating experts were invited to discuss their experiences, with a special focus on how to approach participants as evaluators, current challenges in times of crisis and physical distancing, and resulting digital options for more participation in evaluation. The guiding principle of the panel was to bring together different horizons of experience. Because the majority of evaluation approaches in Citizen Science are still primarily top down and ex-post, we invited people from diverse fields to join the conversation on participatory evaluation with their experiences and share their particular perspectives on the issue. These backgrounds include programme evaluation, youth work and social work, philosophy of science, and Citizen Social Science. With our panelists sharing how they co-design their evaluation activities, we wanted to highlight the already existing body of knowledge, including the various benefits and limitations they have already come across.

The webinar was targeted towards researchers, evaluators, project designers, and communicators working in a participatory research and Citizen Science context. The objective of co-evaluation was not only to promote discussion and learning for the scientific dimension of a project, it should also promote a project's impact including change in the living environments of project participants. Thus the discussions – for



example how to best approach participants as evaluators – are useful to people involved in Citizen Science, programme design, policy, and planning.

7.2. CSA Conference Workshop: Participatory Evaluation in Citizen Science

The workshop *Participatory Evaluation in Citizen Science* was organised in the context of the CitSciVirtual conference of the (mainly US-based) Citizen Science Association. It started from the observation that while Citizen Science is highly participatory, evaluation does not live up to this claim. Consequently, the ambition was to collaboratively tackle this theoretical and methodological gap and further develop existing approaches in the context of a practical Citizen Science case simulation.

The workshop was preceded by sharing materials outlining the host's approach to participatory evaluation or "co-evaluation", including a video and readings on the matter, as well as a pre-survey to collect the experiences and expectations of participants. The interactive virtual session on 12 May 2021 offered a limited number of participants a space for in-depth discussion and exchange. Structurally, the live session included a brief refresher on participatory evaluation, followed by collaborative case work in breakout groups. Within the context of this elaborate fictional case, the participants were divided into two groups and asked to discuss with the workshop hosts a set of questions aimed at scrutinising potential settings and instruments for a co-evaluation:

- What approaches do you think are most promising for designing a robust and participatory evaluation here?
- Which tools/settings could be used?
- Which of the 6 co-evaluation principles are particularly important to consider in this case?
- Who would have been the most important stakeholders to involve?
- How could the different expectations and needs be better included throughout the process?
- Which channels for reflection and feedback could have been implemented from the beginning?

To facilitate the discussion, the hosts prepared a Miro board structured along four categories: 1) potential stakeholder groups affected by the case; 2) expectations and aims these stakeholders might bring to the table; 3) possible co-evaluation settings and instruments arising from these; and 4) questions to bring to the plenary.

The results of these breakout groups were then reported in the plenary, where open questions were collected for future investigations. The most important themes of the discussions included: 1) the role institutional review boards (IRBs) play as gatekeepers that might not be compatible with the logic of a citizen



(social) science project, and especially a participatory evaluation; 2) the potential burden laid on participants by including them in every step of a scientific process, as well as questions of support and capacity building; and 3) how to bridge diverse and often diverging goals and needs between different stakeholders. The participants were also invited to exchange potential methodologies to tackle these issues.

7.3. Session on Evaluation and Impact Assessment at the CoAct Citizen Social Science Summer School

In this session on Research Evaluation, we addressed the topic of research evaluation, and in particular project evaluation. Evaluation is generally about assessing the achievement of objectives. Here, however, the goal can lie both in the research process - for example, through the evaluation of the methods used - and in the project results. In the field of Citizen Science, however, there are many different participants with different interests and goals. How can these be fairly and inclusively targeted and evaluated?

While Citizen Science is by definition highly participatory, its evaluation and impact assessment practices traditionally fail to live up to this claim. Therefore, in this session we explored some approaches to participatory evaluation that involve participants in Citizen Science activities in reflecting on and evaluating the processes and outcomes of projects or initiatives. Such involvement can include co-designing the evaluation strategy, creating evaluation or monitoring tools to be used during and after the project, and so on. In the first half of the session, participants got a short introduction to traditional research evaluation in Citizen Science and were then introduced to a few selected methods of participatory evaluation. In the second part, participants worked in groups on a simulated Citizen Social Science case, which followed a similar logic as the R&I Action Vienna and were invited to think through impact visions for one of three assigned stakeholder groups. This included defining potential measures for each defined impact and describing what “success” and “failure” might look like in each case. Afterwards, the groups returned to the plenary and presented their findings. Even though the session took place in the afternoon well into the second week of the Summer School, engagement was still high, with all groups critically engaging with the simulated case through the lens of evaluation and impact assessment.

ZSI furthermore set up a short survey to collect feedback from the participants at the end of the Summer School, which was filled out by 18 of about 40 participants (see Annex 6). The survey included both quantitative and qualitative items, with the quantitative questions employing a Likert scale from 1 (“I disagree completely”) to 7 (“I agree completely”). Mild criticism was only voiced about time management: “There was enough time for reflection and experience exchange with others” (3). This question reached the lowest mean with an average rating of 5,7, which demonstrates the overall very high satisfaction of participants with the Summer School in terms of goals, provided knowledge, room for questions and overall



value of the event, among others. When asking for concrete improvements to be made to the summer school, the intensity of the agenda was brought up multiple times, with shorter session times, longer breaks, and more space for informal interactions offered as possible adaptations. Several participants also lamented the missing face to face interactions and mentioned in-person activities also as important channels for mutual engagement with the civil society side of Citizen Social Science. A group of participants had created a LinkedIn group to keep in touch and 8 of the participants had autonomously suggested to start monthly meetings to keep in touch and to share their own research activities. Starting from January 2022, this possibility will be further discussed as a group with the school participants.

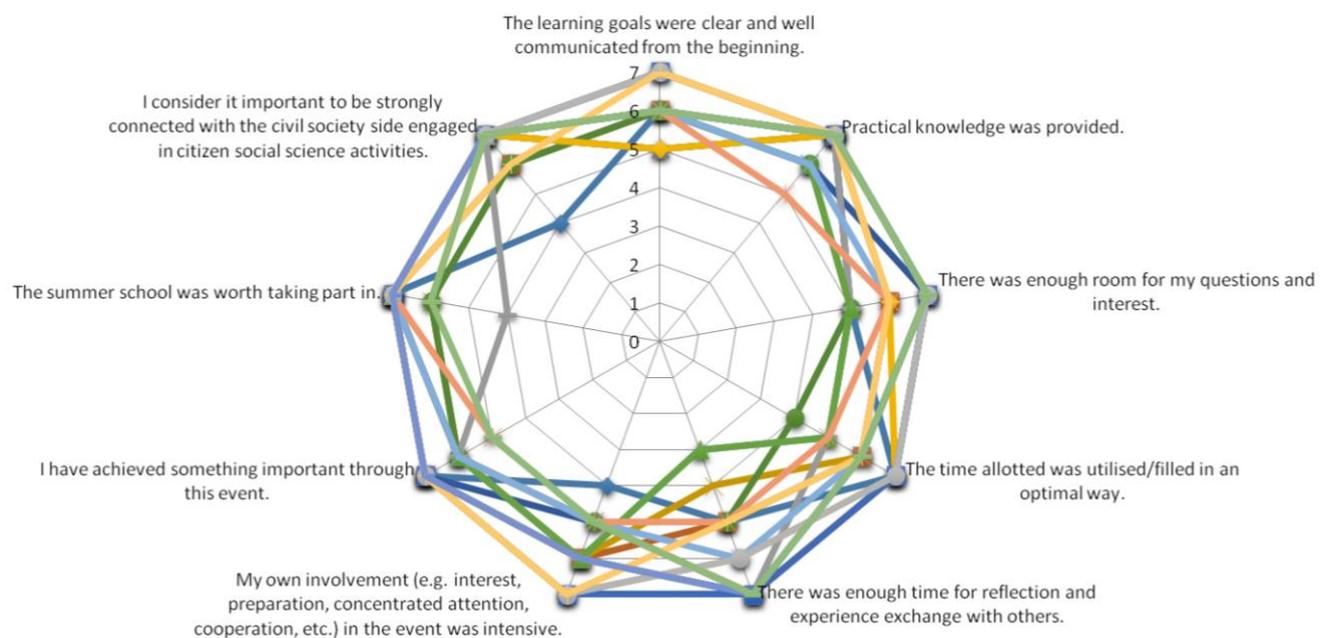


Figure 12: Overview of Summer School survey responses

7.4. Conference Track: Participatory Evaluation in Citizen Science

ZSI organised a track on Participatory Evaluation in Citizen Science at the 1st Global Transdisciplinarity Conference⁴, which took place 27-29 September 2021 as a hybrid event organised by the Danube University Krems, Austria. Together with 9 other EU-funded SwafS projects we explored questions related to participatory evaluation: What do we evaluate when we evaluate Citizen Science? While some say it should

⁴ <https://www.donau-uni.ac.at/en/university/faculties/business-globalization/news-events/events/recurring-events/1st-global-transdisciplinarity-conference.html>



be the long term impact, others claim the biggest challenge for evaluation in Citizen Science is still the process: How can we design participatory processes that are truly inclusive? What motivates anyone to engage in Citizen Science? And are we considering these motivations in the design of Citizen Science projects and research programmes? While Citizen Science is intended increasingly as a participatory process, in its current forms this often excludes the dimension of evaluation. However, there are potentially wide-ranging benefits to including participants of a process in evaluation activities, as we learn from various fields that have employed participatory evaluation for decades, such as social and developmental work and community based participatory research (CBPR). In this track, our partner projects shared their practical experiences with the participatory evaluation of Citizen Science. We discussed how participatory evaluation needs to be carefully designed and implemented. What does it imply when we speak about involving stakeholders in evaluation activities from the onset, including the definition of the evaluation strategy, choosing appropriate evaluation instruments and training, as well as impact indicators? We addressed challenges and opportunities, expectation and impact considerations, as well as the limits of openness and transferability of data. We discussed current approaches towards participatory evaluation in transdisciplinary Citizen Science and reflected on possible risks and pitfalls based on experience from the field.

Feedback at the end of the session was very positive and the participants expressed their interest to continue the exchange of experiences on participatory evaluation, which still poses a lot of challenges when implemented in citizen science projects.

7.5. Special Issue: Participatory Evaluation and Impact Assessment in Citizen Science

The ZSI team launched a call for papers in the special issue of the fteval journal. The fteval Journal for Research and Technology Policy Evaluation positions itself at the interface between research and technology policy practice and academic quality, thereby contributing to the exchange between the various stakeholder groups in the RTI evaluation field. Thematic issues alternate with thematically open ones. The fteval Journal is open access. All papers in the special issue will undergo an editorial and international peer review.

The call text for the special issue can be read in Annex 5. With 12 submissions we have achieved a very good submission rate. The submitted abstracts cover a broad range of topics, covering environmental research, methodological considerations and technological developments as well as social issues of local communities. After the screening of abstracts, 9 authors (and their co-authors) were invited to submit full contributions. The publication in print and online is expected for June 2022.

8. Summary and Outlook

At the start of CoAct, we established a common evaluation and impact assessment approach to serve the transdisciplinary local teams of the CoAct R&I Actions, and to contribute to the canonical development of Citizen Social Science. In accordance with the participatory nature of the three case actions, the evaluation approach itself has been designed as a co-evaluation, which is understood as a form of participatory evaluation that initiates the conversation on expectations, objectives, and impact already at the start of the project with the diverse actors involved. The co-evaluation approach is integrating insights from community-based participatory research, participatory learning and action, and participatory monitoring and evaluation. It thus has a strong emphasis on collective discussions, learning and critical reflection.

In Citizen Social Science, and more concretely in the three cases outlined, we are faced with challenges from the lifeworlds of the affected citizens, who are most likely less bothered with academic output and publications. Instead, they expect some changes in their personal lives and their socio-economic and ecological contexts from their participation in Citizen Social Science endeavours. With the chosen co-evaluation approach, the interests of all engaged actors are integrated on equal footing.

The collaboration between the researchers coordinating the evaluation process and the three local teams resulted in a first set of indicators for expected outputs, as well as intermediate and long-term outcomes with respect to the different actors involved. While there are certain commonalities across the three cases, the nature of the social issues at stake and the different socio-cultural contexts in which they are embedded clearly mark the boundaries of comparability. Identifiable intermediate outcomes are for instance an increase in awareness, knowledge, and skills amongst all stakeholders or the strong rooting of the actions in concrete social issues. These intermediate outcomes are in the long-term expected to increase empowerment, self-determination and the quality of life of citizen co-researchers, and lead to the implementation of new measures and regulations at policy level. A difficulty for any such long-term indicators is the causal attribution of measured changes to a specific intervention. This goes for both directions of causal attribution: the participatory research performed by the local teams may cause multiple effects, while an observed effect (such as a societal change) usually has not one, but many different causes. Due to these difficulties in causal attribution, we have a strong focus on qualitative assessments that should help us to understand the expected outcomes in their breadth and depth.

In the first two years of CoAct, we have already gathered evidence about the benefits of participatory evaluation, such as the growing ownership on the side of the participants, but we have also experienced challenges and seen the barriers of participation, mostly due to structural boundaries. As expected we have



perceived the process as a rough and challenging journey so far, that has however already rewarded some actors with valuable insights into how Citizen Social Science can contribute to facing social challenges in alternative and beneficial ways for all people involved. We have learned how important it is to establish non-hierarchical relationships and an open, trusted, and reflective collaborative culture across the R&I Actions. Mutual learning across the R&I Actions and capacity building across the project partners should still be strengthened in the coming project phases as we see how much there is to learn across the cases.

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11. Annexes

Annex 1: Self-assessment Questionnaires for Citizen Social Science

What is the name or acronym of your Citizen Science project, initiative or proposal?
Operationalisation of dimension 1: Science
Scientific objectives
The scientific goals are sufficiently clear and authentic. [1=strongly disagree, 7= strongly agree]
The scientific objectives can be reached by involving citizens and other relevant actors in the scientific process. [1=strongly disagree, 7= strongly agree]
The scientific objectives address socially relevant problems. [1=strongly disagree, 7= strongly agree]
Please reflect briefly on your scientific objectives and what kind of social issues they address?
Data & Technology
The project follows clear and transparent ethical guidelines. [1=strongly disagree, 7= strongly agree]
The project has a data management and privacy protection plan. [1=strongly disagree, 7= strongly agree]
The project has an open interface to connect to other data sources and platforms (e.g. for data exchange). [1=strongly disagree, 7= strongly agree]
The generated knowledge and data is shared publicly, given that this is in accordance with ethical and scientific guidelines. [1=strongly disagree, 7= strongly agree]
Please reflect briefly on your ethical guidelines, data management and related aspects?
Evaluation & Adaptation
The project has an evaluation concept to assess scientific outcomes. [1=strongly disagree, 7= strongly agree]
The project has a participatory evaluation approach, giving a voice to the participants in the evaluation design, process and results. [1=strongly disagree, 7= strongly agree]
The project has an evaluation concept that considers the benefits for and impact on the involved scientists. [1=strongly disagree, 7= strongly agree]
The project has an evaluation concept that considers the impact on the individual participants. [1=strongly disagree, 7= strongly agree]
The project has an evaluation concept that considers the benefits for and impact on other engaged stakeholders (e.g. the members of the Knowledge Coalition). [1=strongly disagree, 7= strongly agree]
The project has an evaluation concept that considers the impact on wider society, ecology and economy. [1=strongly disagree, 7= strongly agree]
Feedback and evaluation results are continuously taken up by an adaptive project management. [1=strongly disagree, 7= strongly agree]
Please elaborate briefly on your evaluation concept to assess the scientific outcome? What is your main scientific



question and how do you plan to assess it?
Co-operations & synergies
The project fosters co-operation with other projects and initiatives. [1=strongly disagree, 7= strongly agree]
The project connects experts from different disciplines / social fields / sectors. [1=strongly disagree, 7= strongly agree]
Please reflect briefly on how your project cooperates with other organisations, projects and initiatives? Are you connected to relevant stakeholders?
Impact of dimension 1: Science
Scientific knowledge & publications
Research results are actively contributing to the scientific discourse (e.g. via scientific publications, blogs, etc.). [1=strongly disagree, 7= strongly agree]
Participating actors are included in publications either actively or they are recognised as contributors in the publications. [1=strongly disagree, 7= strongly agree]
Scientific project results are taken up by other projects. [1=strongly disagree, 7= strongly agree]
The project leads to new research questions, new projects or proposals. [1=strongly disagree, 7= strongly agree]
Please reflect briefly on your strategy for dissemination & exploitation of your scientific results? In which formats and for which target groups are you publishing your result? Where and how are the project results being taken up?
Knowledge transfer
The project eases the access to local and traditional knowledge resources. [1=strongly disagree, 7= strongly agree]
The project contributes to a mutual understanding of science and society. [1=strongly disagree, 7= strongly agree]
The project creates or supports interfaces between science and policy. [1=strongly disagree, 7= strongly agree]
The project creates interfaces between science and Civil Society Organisations. [1=strongly disagree, 7= strongly agree]
How sustainable do you think is the established knowledge transfer? And where do you see most potential for a sustainable knowledge transfer?
Operationalisation of dimension 2: Citizens/engaged actors
Target group alignment & options for involvement
The project's objectives (also non-scientific) are jointly agreed with participants, clear and authentic. [1=strongly disagree, 7= strongly agree]
The options of involvement for participating citizens and other relevant actors are attractive. [1=strongly disagree, 7= strongly agree]
The project offers a variety of options to get involved (depending on interests, availability, knowledge, ...). [1=strongly disagree, 7= strongly agree]
Participants can choose to engage in various project phases (e.g. during definition of research questions, data gathering, data analysis, dissemination of results). [1=strongly disagree, 7= strongly agree]
Please reflect briefly on your engaged actors: Who are direct participants of the project, who are relevant other stakeholders and who are target audiences?



Supporting material & communication
Supporting material is aligned according to different target groups (e.g. age, language, ...). [1=strongly disagree, 7=strongly agree]
The different project roles and responsibilities are clear to all participants and transparent. [1=strongly disagree, 7=strongly agree]
Citizen participants can interact and communicate with scientists and other project actors during various phases of the project (e.g. research design, data collection, data analysis, dissemination of results). [1=strongly disagree, 7=strongly agree]
Please reflect briefly on your communication strategy with your engaged actors: when and how are you communicating with them and is the communication two-ways (e.g. can it also be initiated by the participants?)
Outcome & impact of dimension 2: Citizens/engaged actors
Knowledge, skills & competences
Participants achieved a personal learning outcome. [1=strongly disagree, 7=strongly agree]
The project contributes to a better understanding of science and/or new methods for knowledge production. [1=strongly disagree, 7=strongly agree]
The project contributes to a better understanding of the specific issues of concern amongst the participants. [1=strongly disagree, 7=strongly agree]
Participants achieved a personal benefit (other than mentioned above). [1=strongly disagree, 7=strongly agree]
Please reflect briefly on what kind of learnings or personal benefits participants achieve?
Responsibility, ownership & engagement
The project fosters ownership and responsibility for the project goals amongst the participants. [1=strongly disagree, 7=strongly agree]
The project contributes to a personal change in behaviour amongst project participants. [1=strongly disagree, 7=strongly agree]
The participants are motivated to continue the project or get involved in similar activities. [1=strongly disagree, 7=strongly agree]
Please reflect briefly on how and when this perceived ownership, responsibility and change in behaviour is taking place? Are there any kind of activities continued by the participants? Also, please add your observations if you notice other forms of engagement emerging with any engaged group of actors or stakeholders.
Operationalisation of dimension 3: Socio-ecological, socio-economic aspects
Dissemination & outreach
The project makes use of different media to reach a wide public audience (e.g. print, online, social media, etc.). [1=strongly disagree, 7=strongly agree]
Project results are made available to a wide public audience, in appropriate understandable formats (e.g. via videos, etc.). [1=strongly disagree, 7=strongly agree]
The project includes innovative methods for dissemination (e.g. co-operation with artists, etc.). [1=strongly disagree, 7=strongly agree]



The dissemination strategy includes bi-directional communication for the general public. [1=strongly disagree, 7= strongly agree]
Please reflect briefly on your dissemination and outreach approach: Have you found any very successful or unsuccessful way of communicating with the wider public about your Citizen Social Science research?
Co-operations & synergies for communication
The project fosters co-operation with non-scientific organisations. [1=strongly disagree, 7= strongly agree]
The project leverages existing networks and civic society organisations for dissemination. [1=strongly disagree, 7= strongly agree]
Please reflect briefly on synergies and cooperation with non-scientific and/or civic society organisations? Is there something that worked especially well or that turned out to be very difficult?
Impact of dimension 3: Socio-ecological, socio-economic aspects
Collective capacity
The project creates or fosters a community / collective. [1=strongly disagree, 7= strongly agree]
The project fosters resilience and the collective capacity to advocate common goals. [1=strongly disagree, 7= strongly agree]
The project supports wider societal goals, such as the Sustainable Development Goals (SDGs), Responsible Research and Innovation (RRI), or others. [1=strongly disagree, 7= strongly agree]
Please elaborate briefly on the societal goals or collective capacity that the project is fostering?
Political impact
The project stimulates the discourse between political representatives and the engaged actors in the project. [1=strongly disagree, 7= strongly agree]
Project results have an impact on political decisions, procedures or political institutions. [1=strongly disagree, 7= strongly agree]
How do you see any political impact evolving from your project?
Ecological impact
The project supports measures to protect natural resources, to counteract pollution, or deals with any other environmentally sustainable aspects. [1=strongly disagree, 7= strongly agree]
The project contributes to a better understanding for environmental topics. [1=strongly disagree, 7= strongly agree]
Please reflect briefly on the socio-ecological impact your project creates?
Sustainability (social, economic, ecological impact)
The project has a clear plan on how to sustain and make use of the results after the project end to create further social, economic or ecological impact. [1=strongly disagree, 7= strongly agree]
Project results are transferable to other contexts. [1=strongly disagree, 7= strongly agree]
Please reflect briefly on the transferrability and wider sustainability of your project results? In which context do you see this taking place, e.g. at the level of concerned communities?

Economic potential
The project generates economic impact, such as cost reduction, new job creation, new markets, new business models, etc. [1=strongly disagree, 7= strongly agree]
Please reflect briefly on what kind of economic or socio-economic impact the project creates or expects to create?
Does the project deliver concrete tools to meet any political, socio-economic or ecological challenges. If so, could you briefly describe them?
Do you have any other comments you would like to share? Any other considerations regarding your Citizen Social Science approach that have not been covered so far?

Annex 1.1. Self-Assessment Co-researchers Barcelona

What is the name or acronym of your Citizen Science project, initiative or proposal?		Coactuem per la salut mental
Operationalisation of dimension 1: Science		
Scientific objectives		
The scientific goals are sufficiently clear and authentic. [1=strongly disagree, 7= strongly agree]		7
The scientific objectives can be reached by involving citizens and other relevant actors in the scientific process. [1=strongly disagree, 7= strongly agree]		7
The scientific objectives address socially relevant problems. [1=strongly disagree, 7= strongly agree]		7
Please reflect briefly on your scientific objectives and what kind of social issues they address?	aclaración de que significa redes social en este caso del proyecto; recursos sociales pare el bienestar; estadística para la población; objetivo muy amplio; puede haber un poco una confusion, pero hay esfuerzo para aclararlo; experiencia autentica, y objetivos autenticos; más claro el qué que para qué; como se van a utilizar los resultados es todavia menos claro, eso quiere todavia importancia de los redes sociales (todavia no tan claro) motivacion para participar privilegiados los que pueden participar; relatos forman parte de las experiencias propias, las redes sociales, pero hacen falta más	
Data & Technology		
The project follows clear and transparent ethical guidelines. [1=strongly disagree, 7= strongly agree]		7
The project has a data management and privacy protection plan. [1=strongly disagree, 7= strongly agree]		7
The project has an open interface to connect to other data sources and platforms (e.g. for data exchange). [1=strongly disagree, 7= strongly agree]		7
The generated knowledge and data is shared publicly, given that this is in accordance with ethical and scientific guidelines. [1=strongly disagree, 7= strongly agree]		7
Please reflect briefly on your ethical guidelines, data management and related aspects?	datos agregados; no es importante quien contesta, formato anónimo; pero el agregado; se comparte los datos entre el grupo del proyecto; software libre es importante; es una political para compartir el proyecto; facilita la alimentación de otros proyectos; muy relevante trabajo científico se debe hacerse conocer y	

	publicar	
Evaluation & Adaptation		
The project has an evaluation concept to assess scientific outcomes. [1=strongly disagree, 7= strongly agree]		7
The project has a participatory evaluation approach, giving a voice to the participants in the evaluation design, process and results. [1=strongly disagree, 7= strongly agree]		7
The project has an evaluation concept that considers the benefits for and impact on the involved scientists. [1=strongly disagree, 7= strongly agree]		7
The project has an evaluation concept that considers the impact on the individual participants. [1=strongly disagree, 7= strongly agree]		7
The project has an evaluation concept that considers the benefits for and impact on other engaged stakeholders (e.g. the members of the Knowledge Coalition). [1=strongly disagree, 7= strongly agree]		7
The project has an evaluation concept that considers the impact on wider society, ecology and economy. [1=strongly disagree, 7= strongly agree]		7
Feedback and evaluation results are continuously taken up by an adaptive project management. [1=strongly disagree, 7= strongly agree]		7
Please elaborate briefly on your evaluation concept to assess the scientific outcome? What is your main scientific question and how do you plan to assess it?	1) evaluando el proceso de co-diseño; 2) como se hace un chatbot de esa manera; 3) procesar los datos; con herramientas flexibles; entender redes de apoyo la proxima etapa: con una página web se puede hacer la interpretación de datos colectiva; herramienta específica para el análisis con todos que participan personas proactivas, sentirse orgulloso, sentirse de co-investigadores - no investigados; proceso de co-operación, no participación; diseño para que se un proceso colaborativo; objetivo metodológico, elemento antihierarquizado para la Coalición del Conocimiento; interpretación de los resultados finales; muchas organizaciones involucradas; evaluación debería hacer en todas las fases del proyecto DNA del proyecto la reflexividad	
Co-operations & synergies		
The project fosters co-operation with other projects and initiatives. [1=strongly disagree, 7= strongly agree]		4
The project connects experts from different disciplines / social fields / sectors. [1=strongly disagree, 7= strongly agree]		7
Please reflect briefly on how your project cooperates with other organisations, projects and initiatives? Are you connected to relevant stakeholders?	proyecto nos ha empoderado como personas; conexión con asociaciones, con la Knowledge Coalition se han formado también nuevos contactos; cooperación dentro del grupo, recogiendo prácticas no tanto con otros proyectos de investigación; con instituciones si proyecto de cooperación; se fomentará la cooperación	
Impact of dimension 1: Science		
Scientific knowledge & publications		
Research results are actively contributing to the scientific discourse (e.g. via scientific publications, blogs, etc.). [1=strongly disagree, 7= strongly agree]		7
Participating actors are included in publications either actively or they are recognised as contributors in the publications. [1=strongly disagree, 7= strongly agree]		7

Scientific project results are taken up by other projects. [1=strongly disagree, 7= strongly agree]	6
The project leads to new research questions, new projects or proposals. [1=strongly disagree, 7= strongly agree]	7
Please reflect briefly on your strategy for dissemination & exploitation of your scientific results? In which formats and for which target groups are you publishing your results? Where and how are the project results being taken up?	no hay muchos proyectos parecidos, va a ser algo nuevo la parte del chatbot se va a reutilizar seguro; la parte de red de apoyo social es algo importante también mundo academico especial lo de la salud mental publicaciones pensados en revistas no disciplinarios
Knowledge transfer	
The project eases the access to local and traditional knowledge resources. [1=strongly disagree, 7= strongly agree]	7
The project contributes to a mutual understanding of science and society. [1=strongly disagree, 7= strongly agree]	7
The project creates or supports interfaces between science and policy. [1=strongly disagree, 7= strongly agree]	7
The project creates interfaces between science and Civil Society Organisations. [1=strongly disagree, 7= strongly agree]	7
How sustainable do you think is the established knowledge transfer? And where do you see most potential for a sustainable knowledge transfer?	en la asamblea final se conecta también con los politicos; influir en el diseño de las politicas publicas fundamental que se influya tambien en la polictica social
Operationalisation of dimension 2: Citizens/engaged actors	
Target group alignment & options for involvement	
The project's objectives (also non-scientific) are jointly agreed with participants, clear and authentic. [1=strongly disagree, 7= strongly agree]	7
The options of involvement for participating citizens and other relevant actors are attractive. [1=strongly disagree, 7= strongly agree]	7
The project offers a variety of options to get involved (depending on interests, availability, knowledge, ...). [1=strongly disagree, 7= strongly agree]	7
Participants can choose to engage in various project phases (e.g. during definition of research questions, data gathering, data analysis, dissemination of results). [1=strongly disagree, 7= strongly agree]	7
Please reflect briefly on your engaged actors: Who are direct participants of the project, who are relevant other stakeholders and who are target audiences?	beneficios para los implicados aparte de lo científico; todos entienden los objetivos facilitar el proceso de estar o no estar; mucho apoyo de participar de forma que le parece oportuno muy buen trato; mucha comprensión, comunicación continua con Anna; vinculo sólido; esfuerzo increíble; esfuerzo del libro tambien; mucho respecto a los co-investigadores
Supporting material & communication	
Supporting material is aligned according to different target groups (e.g. age, language, ...). [1=strongly disagree, 7= strongly agree]	7
The different project roles and responsibilities are clear to all participants and transparent. [1=strongly disagree, 7= strongly agree]	7
Citizen participants can interact and communicate with scientists and other project actors during various phases	7



of the project (e.g. research design, data collection, data analysis, dissemination of results). [1=strongly disagree, 7= strongly agree]		
Please reflect briefly on your communication strategy with your engaged actors: when and how are you communicating with them and is the communication two-ways (e.g. can it also be initiated by the participants?)	cuaderno ha sido muy útil; el elemento físico durante COVID ayudaba; metodología se adaptó; persona ciego no ha participado pero sería algo de tener en cuenta roles muy claros sentido co-responsables los co-investigadores; tan libres y podían intervenir también esfuerzo de organizarse internamente; todo muy bien han generado nuevas cosas en la colaboración; siguen estar involucradas	
Outcome & impact of dimension 2: Citizens/engaged actors		
Knowledge, skills & competences		
Participants achieved a personal learning outcome. [1=strongly disagree, 7= strongly agree]		7
The project contributes to a better understanding of science and/or new methods for knowledge production. [1=strongly disagree, 7= strongly agree]		7
The project contributes to a better understanding of the specific issues of concern amongst the participants. [1=strongly disagree, 7= strongly agree]		7
Participants achieved a personal benefit (other than mentioned above). [1=strongly disagree, 7= strongly agree]		7
Please reflect briefly on what kind of learnings or personal benefits participants achieve?	aspecto terapeutico de participar; beneficio muy grande; proyecto más bonito; descubrir la capacidad literaria y ilustrativa de los co-investigadores cuando entro Esmeralda (escritora) y Pau (ilustrador); apoderado también del chatbot	
Responsibility, ownership & engagement		
The project fosters ownership and responsibility for the project goals amongst the participants. [1=strongly disagree, 7= strongly agree]		7
The project contributes to a personal change in behaviour amongst project participants. [1=strongly disagree, 7= strongly agree]		7
The participants are motivated to continue the project or get involved in similar activities. [1=strongly disagree, 7= strongly agree]		7
Please reflect briefly on how and when this perceived ownership, responsibility and change in behaviour is taking place? Are there any kind of activities continued by the participants? Also, please add your observations if you notice other forms of engagement emerging with any engaged group of actors or stakeholders.	problema de salud mental: cambio del paradigma de como verse a si mismo; co-resarchers ya tienen un enfoque más comunitario; personas con menos tayectoria se podría ver un cambio todavia más grande; aplicando ya detalles que se aprendieron durante el proceso; aprendido metodologias (grupo de ayuda mutua); practicaros lo que se habia aprendido (más que conocimiento)	
Operationalisation of dimension 3: Socio-ecological, socio-economic aspects		
Dissemination & outreach		
The project makes use of different media to reach a wide public audience (e.g. print, online, social media, etc.). [1=strongly disagree, 7= strongly agree]		5
Project results are made available to a wide public audience, in appropriate understandable formats (e.g via videos, etc.). [1=strongly disagree, 7= strongly agree]		0 no response
The project includes innovative methods for dissemination (e.g. co-operation with artists, etc.). [1=strongly		0 no



disagree, 7= strongly agree]		response
The dissemination strategy includes bi-directional communication for the general public. [1=strongly disagree, 7= strongly agree]		7
Please reflect briefly on your dissemination and outreach approach: Have you found any very successful or unsuccessful way of communicating with the wider public about your Citizen Social Science research?	difusión a vez que este en marcha el chatbot; al principio con la federación; pero no para un publico amplio con COVID se tiene una audiencia más sensibilizada para la salud mental; se espera un cambio positivo; participación del dibujante; mini por ejemplo a traves de Youtube se puede hacer muy conocido; Telegram, etc. difusión se va a hacer mas en el futuro; se puede hacer una reunión con los co-researchers para definir los medidos y la estrategia	
Co-operations & synergies for communication		
The project fosters co-operation with non-scientific organisations. [1=strongly disagree, 7= strongly agree]		7
The project leverages existing networks and civic society organisations for dissemination. [1=strongly disagree, 7= strongly agree]		7
Please reflect briefly on synergies and cooperation with non-scientific and/or civic society organisations? Is there something that worked especially well or that turned out to be very difficult?		/
Impact of dimension 3: Socio-ecological, socio-economic aspects		
Collective capacity		
The project creates or fosters a community / collective. [1=strongly disagree, 7= strongly agree]		7
The project fosters resilience and the collective capacity to advocate common goals. [1=strongly disagree, 7= strongly agree]		7
The project supports wider societal goals, such as the Sustainable Development Goals (SDGs), Responsible Research and Innovation (RRI), or others. [1=strongly disagree, 7= strongly agree]		7
Please elaborate briefly on the societal goals or collective capacity that the project is fostering?	RRI si	
Political impact		
The project stimulates the discourse between political representatives and the engaged actors in the project. [1=strongly disagree, 7= strongly agree]		7
Project results have an impact on political decisions, procedures or political institutions. [1=strongly disagree, 7= strongly agree]		7
How do you see any political impact evolving from your project?	lo va a hacer; es la inteción; son necesarios para lograr el cambio depende también del feedback del chatbot o está apoyado con el feedback buen momento porque es un tema prioritario la salud mental;	
Ecological impact		
The project supports measures to protect natural resources, to counteract pollution, or deals with any other environmentally sustainable aspects. [1=strongly disagree, 7= strongly agree]		2
The project contributes to a better understanding for environmental topics. [1=strongly disagree, 7= strongly agree]		2

Please reflect briefly on the socio-ecological impact your project creates?	se puede hacer una actividad; medioambiente: sería interesante reflexionar en las redes si se afecta el medioambiente; salud física y mental están conectados entonces se puede hacer un intercambio por ejemplo con Argentina mucha gente se huye de la ciudad y buscan ambiente más natural para vivir se puede reflexionar para el futuro
Sustainability (social, economic, ecological impact)	
The project has a clear plan on how to sustain and make use of the results after the project end to create further social, economic or ecological impact. [1=strongly disagree, 7= strongly agree]	7
Project results are transferable to other contexts. [1=strongly disagree, 7= strongly agree]	7
Please reflect briefly on the transferability and wider sustainability of your project results? In which context do you see this taking place, e.g. at the level of concerned communities?	ahora el plan no está claro; pero tienen claro que lo harán será la continuación y comienzo para mucho más mucha ilusión; contexto escolar, médico
Economic potential	
The project generates economic impact, such as cost reduction, new job creation, new markets, new business models, etc. [1=strongly disagree, 7= strongly agree]	3
Please reflect briefly on what kind of economic or socio-economic impact the project creates or expects to create?	más puestos de trabajo porque hace falta más profesionales en salud mental proyecto tiene mucho potencial en enlazar en empresas privadas Coactum se puede transferir a iniciativas distintas con más enfoque económico no es el objetivo principal
Does the project deliver concrete tools to meet any political, socio-economic or ecological challenges. If so, could you briefly describe them?	chatbot,
Do you have any other comments you would like to share? Any other considerations regarding your Citizen Social Science approach that have not been covered so far?	mucho poder del proyecto; entonces tantos 7

Annex 1.2. Self-Assessment Research team Barcelona

What is the name or acronym of your Citizen Science project, initiative or proposal?	CoActuem per la Salut Mental_ OS + FSMC
Operationalisation of dimension 1: Science	
Scientific objectives	
The scientific goals are sufficiently clear and authentic. [1=strongly disagree, 7= strongly agree]	7
The scientific objectives can be reached by involving citizens and other relevant actors in the scientific process. [1=strongly disagree, 7= strongly agree]	6



The scientific objectives address socially relevant problems. [1=strongly disagree, 7= strongly agree]		7
Please reflect briefly on your scientific objectives and what kind of social issues they address?	UB+FSMC needed some time to agree on a common view regarding the scientific objectives. And then they had to explain it in an understandable language to the KC and CoRe and validate them with the two groups.	
Data & Technology		
The project follows clear and transparent ethical guidelines. [1=strongly disagree, 7= strongly agree]		7
The project has a data management and privacy protection plan. [1=strongly disagree, 7= strongly agree]		7
The project has an open interface to connect to other data sources and platforms (e.g. for data exchange). [1=strongly disagree, 7= strongly agree]		0 no response
The generated knowledge and data is shared publicly, given that this is in accordance with ethical and scientific guidelines. [1=strongly disagree, 7= strongly agree]		7
Please reflect briefly on your ethical guidelines, data management and related aspects?	The ethical guidelines were communicated from the beginning to the co-researching persons. There are no open data bases in mental health that would allow a connection via an open interface.	
Evaluation & Adaptation		
The project has an evaluation concept to assess scientific outcomes. [1=strongly disagree, 7= strongly agree]		6
The project has a participatory evaluation approach, giving a voice to the participants in the evaluation design, process and results. [1=strongly disagree, 7= strongly agree]		6
The project has an evaluation concept that considers the benefits for and impact on the involved scientists. [1=strongly disagree, 7= strongly agree]		3
The project has an evaluation concept that considers the impact on the individual participants. [1=strongly disagree, 7= strongly agree]		7
The project has an evaluation concept that considers the benefits for and impact on other engaged stakeholders (e.g. the members of the Knowledge Coalition). [1=strongly disagree, 7= strongly agree]		6
The project has an evaluation concept that considers the impact on wider society, ecology and economy. [1=strongly disagree, 7= strongly agree]		6
Feedback and evaluation results are continuously taken up by an adaptive project management. [1=strongly disagree, 7= strongly agree]		7
Please elaborate briefly on your evaluation concept to assess the scientific outcome? What is your main scientific question and how do you plan to assess it?	For the moment the focus of the evaluation ins more on the scientific process than on the outcomes. Via discussions we will validate the project in a qualitative way in various phases. The evaluation is done more from the participants perspective, and especially the co-researcher, and less so from the researchers' perspective. There is a continuous communication and exchange between the co-researcher and the content of this communication is analyzed continuously.	
Co-operations & synergies		
The project fosters co-operation with other projects and initiatives. [1=strongly disagree, 7= strongly agree]		5
The project connects experts from different disciplines / social fields / sectors. [1=strongly disagree, 7= strongly agree]		7

Please reflect briefly on how your project cooperates with other organisations, projects and initiatives? Are you connected to relevant stakeholders?	The project fosters cooperation with other entities, more than with other projects. The cooperation at institutional level will be the focus in the final project period. In addition, the project offers possible cooperation spaces for co-researcher with the involved entities.
Impact of dimension 1: Science	
Scientific knowledge & publications	
Research results are actively contributing to the scientific discourse (e.g. via scientific publications, blogs, etc.). [1=strongly disagree, 7= strongly agree]	0 no response
Participating actors are included in publications either actively or they are recognised as contributors in the publications. [1=strongly disagree, 7= strongly agree]	6
Scientific project results are taken up by other projects. [1=strongly disagree, 7= strongly agree]	0 no response
The project leads to new research questions, new projects or proposals. [1=strongly disagree, 7= strongly agree]	5
Please reflect briefly on your strategy for dissemination & exploitation of your scientific results? In which formats and for which target groups are you publishing your result? Where and how are the project results being taken up?	There are no scientific publications yet. Presentations at scientific events have been done jointly with co-researchers. The question can be better answered at a later stage.
Knowledge transfer	
The project eases the access to local and traditional knowledge resources. [1=strongly disagree, 7= strongly agree]	7
The project contributes to a mutual understanding of science and society. [1=strongly disagree, 7= strongly agree]	7
The project creates or supports interfaces between science and policy. [1=strongly disagree, 7= strongly agree]	7
The project creates interfaces between science and Civil Society Organisations. [1=strongly disagree, 7= strongly agree]	7
How sustainable do you think is the established knowledge transfer? And where do you see most potential for a sustainable knowledge transfer?	The project is based on the knowledge of the co-researcher. The political action potential will be stronger once the data has been interpreted and analyzed.
Operationalisation of dimension 2: Citizens/engaged actors	
Target group alignment & options for involvement	
The project's objectives (also non-scientific) are jointly agreed with participants, clear and authentic. [1=strongly disagree, 7= strongly agree]	6
The options of involvement for participating citizens and other relevant actors are attractive. [1=strongly disagree, 7= strongly agree]	5
The project offers a variety of options to get involved (depending on interests, availability, knowledge, ...). [1=strongly disagree, 7= strongly agree]	7
Participants can choose to engage in various project phases (e.g. during definition of research questions, data	7

gathering, data analysis, dissemination of results). [1=strongly disagree, 7= strongly agree]		
Please reflect briefly on your engaged actors: Who are direct participants of the project, who are relevant other stakeholders and who are target audiences?	We understand the objectives in a dynamic manner. The options for engagement are diverse and some of the options have not been fully developed yet.	
Supporting material & communication		
Supporting material is aligned according to different target groups (e.g. age, language, ...). [1=strongly disagree, 7= strongly agree]		7
The different project roles and responsibilities are clear to all participants and transparent. [1=strongly disagree, 7= strongly agree]		5
Citizen participants can interact and communicate with scientists and other project actors during various phases of the project (e.g. research design, data collection, data analysis, dissemination of results). [1=strongly disagree, 7= strongly agree]		7
Please reflect briefly on your communication strategy with your engaged actors: when and how are you communicating with them and is the communication two-ways (e.g. can it also be initiated by the participants?)	Q2: the role of the KC still needs to be better outlined.	
Outcome & impact of dimension 2: Citizens/engaged actors		
Knowledge, skills & competences		
Participants achieved a personal learning outcome. [1=strongly disagree, 7= strongly agree]		7
The project contributes to a better understanding of science and/or new methods for knowledge production. [1=strongly disagree, 7= strongly agree]		7
The project contributes to a better understanding of the specific issues of concern amongst the participants. [1=strongly disagree, 7= strongly agree]		7
Participants achieved a personal benefit (other than mentioned above). [1=strongly disagree, 7= strongly agree]		7
Please reflect briefly on what kind of learnings or personal benefits participants achieve?	The co-researcher expressed in various occasions their learning, the quality of the collaborative space that was created and the benefits for their personal wellbeing.	
Responsibility, ownership & engagement		
The project fosters ownership and responsibility for the project goals amongst the participants. [1=strongly disagree, 7= strongly agree]		7
The project contributes to a personal change in behaviour amongst project participants. [1=strongly disagree, 7= strongly agree]		0 no response
The participants are motivated to continue the project or get involved in similar activities. [1=strongly disagree, 7= strongly agree]		7
Please reflect briefly on how and when this perceived ownership, responsibility and change in behaviour is taking place? Are there any kind of activities continued by the participants? Also, please add your observations if you notice	Generally, the co-researcher show a lot of motivation and they want to get involved in everything. As a consequence of the generated confidence and established trust they intervene and give their opinion in all phases of the project.	



other forms of engagement emerging with any engaged group of actors or stakeholders.	Regarding Q2, it is difficult at personal level. Some of them commented that their participation changed their perception with regards to their own potential of participating and guiding research and achieve social transformation.
Operationalisation of dimension 3: Socio-ecological, socio-economic aspects	
Dissemination & outreach	
The project makes use of different media to reach a wide public audience (e.g. print, online, social media, etc.). [1=strongly disagree, 7= strongly agree]	7
Project results are made available to a wide public audience, in appropriate understandable formats (e.g via videos, etc.). [1=strongly disagree, 7= strongly agree]	7
The project includes innovative methods for dissemination (e.g. co-operation with artists, etc.). [1=strongly disagree, 7= strongly agree]	7
The dissemination strategy includes bi-directional communication for the general public. [1=strongly disagree, 7= strongly agree]	0 no response
Please reflect briefly on your dissemination and outreach approach: Have you found any very successful or unsuccessful way of communicating with the wider public about your Citizen Social Science research?	Q2: in a later phase. Q3: collaboration with an illustrator and a writer.
Co-operations & synergies for communication	
The project fosters co-operation with non-scientific organisations. [1=strongly disagree, 7= strongly agree]	7
The project leverages existing networks and civic society organisations for dissemination. [1=strongly disagree, 7= strongly agree]	7
Please reflect briefly on synergies and cooperation with non-scientific and/or civic society organisations? Is there something that worked especially well or that turned out to be very difficult?	Many CSOs are involved and have contributed to dissemination, for example when looking for co-researcher.
Impact of dimension 3: Socio-ecological, socio-economic aspects	
Collective capacity	
The project creates or fosters a community / collective. [1=strongly disagree, 7= strongly agree]	7
The project fosters resilience and the collective capacity to advocate common goals. [1=strongly disagree, 7= strongly agree]	7
The project supports wider societal goals, such as the Sustainable Development Goals (SDGs), Responsible Research and Innovation (RRI), or others. [1=strongly disagree, 7= strongly agree]	7
Please elaborate briefly on the societal goals or collective capacity that the project is fostering?	/
Political impact	
The project stimulates the discourse between political representatives and the engaged actors in the project.	7



[1=strongly disagree, 7= strongly agree]		
Project results have an impact on political decisions, procedures or political institutions. [1=strongly disagree, 7= strongly agree]		0 no response
How do you see any political impact evolving from your project?	Q1, Q2: not yet implemented, but it is our objective. The co-researcher are already engaged actors.	
Ecological impact		
The project supports measures to protect natural resources, to counteract pollution, or deals with any other environmentally sustainable aspects. [1=strongly disagree, 7= strongly agree]		0 no response
The project contributes to a better understanding for environmental topics. [1=strongly disagree, 7= strongly agree]		0 no response
Please reflect briefly on the socio-ecological impact your project creates?	The online sessions have reduced our socio-ecological impact.	
Sustainability (social, economic, ecological impact)		
The project has a clear plan on how to sustain and make use of the results after the project end to create further social, economic or ecological impact. [1=strongly disagree, 7= strongly agree]		0 no response
Project results are transferable to other contexts. [1=strongly disagree, 7= strongly agree]		6
Please reflect briefly on the transferrability and wider sustainability of your project results? In which context do you see this taking place, e.g. at the level of concerned communities?	Q1: the plan still needs to be el plan elaborated more concretely, also how to use the results.	
Economic potential		
The project generates economic impact, such as cost reduction, new job creation, new markets, new business models, etc. [1=strongly disagree, 7= strongly agree]		4
Please reflect briefly on what kind of economic or socio-economic impact the project creates or expects to create?	Q1: We need to see. In the field of mental health services, it could lead to a reduction in costs.	
Does the project deliver concrete tools to meet any political, socio-economic or ecological challenges. If so, could you briefly describe them?	Si. In our case, the creation of the community of co-researcher and the creation of a new research tool to do citizen science.	
Do you have any other comments you would like to share? Any other considerations regarding your Citizen Social Science approach that have not been covered so far?	/	

Annex 1.3. Self-assessment Vienna

What is the name or acronym of your Citizen Science project, initiative or proposal?	CoAct Vienna
Operationalisation of dimension 1: Science	
Scientific objectives	
The scientific goals are sufficiently clear and authentic. [1=strongly disagree, 7= strongly agree]	6



The scientific objectives can be reached by involving citizens and other relevant actors in the scientific process. [1=strongly disagree, 7= strongly agree]		7
The scientific objectives address socially relevant problems. [1=strongly disagree, 7= strongly agree]		7
Please reflect briefly on your scientific objectives and what kind of social issues they address?	Q1 Some points are very defined, like having an impact on AFIT → very goal oriented, even if it was obscured by Covid-19. A definite goal is producing methods, developing methods that can be used by young people, trainers and coaches. We also have goals that are not that clear, like producing knowledge about AFIT, which is not always that simple. It's not traditional scientific knowledge. Viennese goals are clearer, even if we have discussions on how to implement/achieve them. Consortium level goals are less clear.	
Data & Technology		
The project follows clear and transparent ethical guidelines. [1=strongly disagree, 7= strongly agree]		5
The project has a data management and privacy protection plan. [1=strongly disagree, 7= strongly agree]		0 no response
The project has an open interface to connect to other data sources and platforms (e.g. for data exchange). [1=strongly disagree, 7= strongly agree]		1
The generated knowledge and data is shared publicly, given that this is in accordance with ethical and scientific guidelines. [1=strongly disagree, 7= strongly agree]		7
Please reflect briefly on your ethical guidelines, data management and related aspects?	Q1 I think we don't have guidelines on the consortium level, but we have a strong ethical core through the reflection activities. Informed consent and ethical dimension; longer meetings about how to do things; specificities of the target group → embedded in the project and research design. Also, ongoing discussion before implementing a new step → looking at the ethical dimension. European level: we have a clear document, but ethical research cannot be put in a guideline. The discussion of the implementation of the guideline is missing. We have to reflect on how we handle it in practice. Q2 We have a very high level of privacy protection. Wir beschäftigen uns weniger mit Datenmanagement. Privacy protection is very important to us and we discuss it all the time, but with data management we are not very familiar. Q4 Of course we are sharing our knowledge, but this also means we are not sharing any sensitive data. We put materials we produced on Instagram, on our Homepage, so we share with our audiences.	
Evaluation & Adaptation		
The project has an evaluation concept to assess scientific outcomes. [1=strongly disagree, 7= strongly agree]		7
The project has a participatory evaluation approach, giving a voice to the participants in the evaluation design, process and results. [1=strongly disagree, 7= strongly agree]		7
The project has an evaluation concept that considers the benefits for and impact on the involved scientists. [1=strongly disagree, 7= strongly agree]		3
The project has an evaluation concept that considers the impact on the individual participants. [1=strongly disagree, 7= strongly agree]		6
The project has an evaluation concept that considers the benefits for and impact on other engaged stakeholders (e.g. the members of the Knowledge Coalition). [1=strongly disagree, 7= strongly agree]		5

<p>The project has an evaluation concept that considers the impact on wider society, ecology and economy. [1=strongly disagree, 7= strongly agree]</p>	<p>5</p>
<p>Feedback and evaluation results are continuously taken up by an adaptive project management. [1=strongly disagree, 7= strongly agree]</p>	<p>7</p>
<p>Please elaborate briefly on your evaluation concept to assess the scientific outcome? What is your main scientific question and how do you plan to assess it?</p>	<p>Q1+Q2 The reflection meeting we did after the first co-creation session, that would be something that could count for it. Now we have the Fachbereich, where we are encouraged to share articles, and we do have reflection rounds on R&I Actions and how to learn from each session. When we meet with the trainers and get updates on their perspectives. We are currently also in the testing phase of the Actionbound app. We also collect feedback after sessions with youths. We don't have an evaluation plan/concept, but the overall research design is reflexive. Q3 I don't think I have a concept of how the project can benefit us as scientists. What we do is with regards to conferences, we discuss what fields we are interested in aside from CoAct. I feel the three of us sometimes think about it in private conversations, and how we feel about academic spaces, but we didn't really think about it in terms of a plan. Q4 I think we have a baseline, based on our previous projects. Young participants should gain something from the project, for example working differently than in their normal settings, an environment where they can voice opinions about things where they usually don't have space to do so. It is about empowerment, knowledge gaining. For trainers, it might be about giving them space to do things in the context of CoAct they usually couldn't do in their usual settings. We also listen to their ideas and needs. What does concept mean, does it have to be written down or can it be fluid? Q5 I also think we have a high number there. It got higher with the progress of the project. The longer we worked with them the more benefits and impacts got defined. I think for example with the participatory evaluation event, there we have expectations and it's easy to say, what was the impact then. With the trainer meetings it is also easy to say "How did it work for you?". We are still in the phase where people are testing us and see how do we work, is it good enough, ...? So when the feedback is positive people involve themselves more in the project. Q6 I think we could find out an impact, but it is still evolving. We don't have a clear picture now, and in the course of the project we might see change or resistance. All the Education up to 18 measures are mostly very strict, and we could have a huge impact in showing how participatory work could work with young people, and through this giving young people a voice. → where should the journey go, in terms of our own expectations, the expectations of the stakeholders, desired impacts on AFIT, ...</p>
<p>Co-operations & synergies</p>	
<p>The project fosters co-operation with other projects and initiatives. [1=strongly disagree, 7= strongly agree]</p>	<p>4</p>
<p>The project connects experts from different disciplines / social fields / sectors. [1=strongly disagree, 7= strongly agree]</p>	<p>6</p>
<p>Please reflect briefly on how your project cooperates with other organisations, projects and initiatives? Are you connected to relevant stakeholders?</p>	<p>Q1 Only a little (Wege in die Zukunft, FTI Remixed, YOUCOUNT, Spotteron, ...). We wouldn't rate it very high, it is not something we are super actively engaging with at the moment. Q2 We would not give it a seven, because we are pretty confined to the field of youth education. Yesterday we needed a game designer, you never know. All the people who tested the Actionbound had different backgrounds.</p>



Impact of dimension 1: Science	
Scientific knowledge & publications	
Research results are actively contributing to the scientific discourse (e.g. via scientific publications, blogs, etc.). [1=strongly disagree, 7= strongly agree]	7
Participating actors are included in publications either actively or they are recognised as contributors in the publications. [1=strongly disagree, 7= strongly agree]	0 no response
Scientific project results are taken up by other projects. [1=strongly disagree, 7= strongly agree]	0 no response
The project leads to new research questions, new projects or proposals. [1=strongly disagree, 7= strongly agree]	7
Please reflect briefly on your strategy for dissemination & exploitation of your scientific results? In which formats and for which target groups are you publishing your results? Where and how are the project results being taken up?	Q1 We do publish, attend conferences and stuff. Q2 We don't know this yet. We are planning to do so, but we are not yet at the point where we discuss it with our participants. It would be organised on short notice, for instance if participants want to know more about the process, write a blog-entry, etc. Q3 We also don't know this yet. Please ask again in 1 year. Q4 Always. At least new research questions. And it already led to a new project with this event, which can again raise a lot of questions on many levels.
Knowledge transfer	
The project eases the access to local and traditional knowledge resources. [1=strongly disagree, 7= strongly agree]	6
The project contributes to a mutual understanding of science and society. [1=strongly disagree, 7= strongly agree]	7
The project creates or supports interfaces between science and policy. [1=strongly disagree, 7= strongly agree]	7
The project creates interfaces between science and Civil Society Organisations. [1=strongly disagree, 7= strongly agree]	7
How sustainable do you think is the established knowledge transfer? And where do you see most potential for a sustainable knowledge transfer?	Q1 I think the co-creation sessions are one big access point, but then we define discussions as resources. I think all the already produced publications around Ed up to 18, reports and so on, are highly local and traditional knowledge. KC interviews. It eases the access, actually, so we are actually doing it. Q2 What's local and traditional knowledge? I think through Instagram, we definitely created better access to what is PAR, which is one thing we do. We introduce in the KC our methodologies, we are always explaining and negotiating how science and society are interconnected. Q3 Interfaces as points of exchange → that's one of the goals, at least. Q4 Yes. Because all the institutions cooperating with us are Civil Society Organisations.
Operationalisation of dimension 2: Citizens/engaged actors	
Target group alignment & options for involvement	
The project's objectives (also non-scientific) are jointly agreed with participants, clear and authentic. [1=strongly disagree, 7= strongly agree]	4
The options of involvement for participating citizens and other relevant actors are attractive. [1=strongly	6

disagree, 7= strongly agree]		
The project offers a variety of options to get involved (depending on interests, availability, knowledge, ...). [1=strongly disagree, 7= strongly agree]		7
Participants can choose to engage in various project phases (e.g. during definition of research questions, data gathering, data analysis, dissemination of results). [1=strongly disagree, 7= strongly agree]		7
Please reflect briefly on your engaged actors: Who are direct participants of the project, who are relevant other stakeholders and who are target audiences?	<p>Q1 I would say not so much. We had a lot of plans to build up a platform with young people, to interconnect them and so on. Covid-19 destroyed all of these plans. Auch wenn sich die technischen Gegebenheiten etabliert hat ist die längere und aktivere Partizipation von Jugendlichen nicht möglich, weil die Trainer*innen das auch nicht machen. Deswegen haben wir uns auch so lange dagegen gewehrt, das online zu machen. Weil wir einen längerfristigen Impact wollten. Die Jugendlichen, mit denen wir jetzt arbeiten, haben wir immer nur über ein paar Tage. Im kleinen ja, natürlich, da gibt's voll viele gemeinsame Aushandlungsprozesse, aber im großen Projekt, wo das hin soll usw, eigentlich gar nicht. Das kann auch etwas sein, was sich noch bewegen kann. Die Trainer*innen sind allerdings schon involviert. Q2 I think so, our offers are very attractive. The general KC, the trainer KC, and the youth participation sessions, we are always sensitive about offering attractive options. We always ask them about their opinions, how they'd like to be involved, etc. Q3 Yes, this actually expanded because of Covid-19. We initially had a narrower plan and had to expand this. So we realised possibilities we didn't plan to before.</p>	
Supporting material & communication		
Supporting material is aligned according to different target groups (e.g. age, language, ...). [1=strongly disagree, 7= strongly agree]		7
The different project roles and responsibilities are clear to all participants and transparent. [1=strongly disagree, 7= strongly agree]		5
Citizen participants can interact and communicate with scientists and other project actors during various phases of the project (e.g. research design, data collection, data analysis, dissemination of results). [1=strongly disagree, 7= strongly agree]		4
Please reflect briefly on your communication strategy with your engaged actors: when and how are you communicating with them and is the communication two-ways (e.g. can it also be initiated by the participants?)	<p>Q2 It's complicated. People always keep telling us that our project is too complicated. Sometimes they tell us it's cool, but they don't understand how it works. It's really hard to get a whole picture without boring people. Q3 We tried that, and they naturally do because of the networks already existing. But we cannot share email-addresses and so on. There is no independent interaction, but there are the KC meetings. Independent interactions: 2; exchange platforms for various actors independent of us: 5. We also had the ZSI survey where we got independent inputs/interactions with KC members.</p>	
Outcome & impact of dimension 2: Citizens/engaged actors		
Knowledge, skills & competences		
Participants achieved a personal learning outcome. [1=strongly disagree, 7= strongly agree]		7
The project contributes to a better understanding of science and/or new methods for knowledge production. [1=strongly disagree, 7= strongly agree]		7
The project contributes to a better understanding of the specific issues of concern amongst the		7

participants. [1=strongly disagree, 7= strongly agree]		
Participants achieved a personal benefit (other than mentioned above). [1=strongly disagree, 7= strongly agree]		7
Please reflect briefly on what kind of learnings or personal benefits participants achieve?	Q1 How PAR works on the KC level. Digital learning outcome. This is one of your main goals, so it is inherent in every activity. Q4 There's always this level of doing something different, doing something new, being asked to actively voice concerns/problems/issues, having a voice in something, Mitbestimmungsrecht, opening spaces for themselves, being listened to and taken seriously.	
Responsibility, ownership & engagement		
The project fosters ownership and responsibility for the project goals amongst the participants. [1=strongly disagree, 7= strongly agree]		3
The project contributes to a personal change in behaviour amongst project participants. [1=strongly disagree, 7= strongly agree]		0 no response
The participants are motivated to continue the project or get involved in similar activities. [1=strongly disagree, 7= strongly agree]		7
Please reflect briefly on how and when this perceived ownership, responsibility and change in behaviour is taking place? Are there any kind of activities continued by the participants? Also, please add your observations if you notice other forms of engagement emerging with any engaged group of actors or stakeholders.	Q1 No, not so much. People are looking for their own goals within the project. At the point in the project we are now, they are using us for their own aims. E.g. the project week in summer we were offered, this was because they were understaffed. We can align the goals, but they are not now. They are interested in the outcomes, for instance policy recommendations. Q2 This would require spending more time with them and building more of a relationship of trust. However, changing structures also means changing behaviour, to assess more needs, foster participation, etc. We offer tools and methods trainers could use in the future. But it is still very abstract now. We still need time to see these changes. Q3 Yes, they are. The only problem is: They were really motivated, but not online. A lot of participants in the KC as well as young people give us very good feedback.	
Operationalisation of dimension 3: Socio-ecological, socio-economic aspects		
Dissemination & outreach		
The project makes use of different media to reach a wide public audience (e.g. print, online, social media, etc.). [1=strongly disagree, 7= strongly agree]		7
Project results are made available to a wide public audience, in appropriate understandable formats (e.g via videos, etc.). [1=strongly disagree, 7= strongly agree]		7
The project includes innovative methods for dissemination (e.g. co-operation with artists, etc.). [1=strongly disagree, 7= strongly agree]		7
The dissemination strategy includes bi-directional communication for the general public. [1=strongly disagree, 7= strongly agree]		0 no response
Please reflect briefly on your dissemination and outreach approach: Have you found any very successful or unsuccessful way of communicating with the wider public about your Citizen Social Science research?	Q1 We use social media, different mailing lists. Radio is something that could be interesting. YouTube videos in cooperation with artists. Q2 Yes. We do have video, social media, scientific texts, an exhibition, we do have the homepage (especially for the KC members), we have reports, probably also specific for target groups (for the ministries, for Education up to 18), maybe radio, posters we used for the co-creation process, and so on. Q3 Yes, YouTube, radio, cooperation with artists, ...	



	Maybe Actionbound in the future. Q4 We got two registrations for trainer meetings through Instagram, and we had a cooperation with FT Remix, but we don't think it's leading anywhere. It's not yet happening, maybe it will be happening a bit more, but at the moment not so much. Maybe Veronika receives more Anfragen from newspapers..
Co-operations & synergies for communication	
The project fosters co-operation with non-scientific organisations. [1=strongly disagree, 7= strongly agree]	7
The project leverages existing networks and civic society organisations for dissemination. [1=strongly disagree, 7= strongly agree]	7
Please reflect briefly on synergies and cooperation with non-scientific and/or civic society organisations? Is there something that worked especially well or that turned out to be very difficult?	/
Impact of dimension 3: Socio-ecological, socio-economic aspects	
Collective capacity	
The project creates or fosters a community / collective. [1=strongly disagree, 7= strongly agree]	7
The project fosters resilience and the collective capacity to advocate common goals. [1=strongly disagree, 7= strongly agree]	6
The project supports wider societal goals, such as the Sustainable Development Goals (SDGs), Responsible Research and Innovation (RRI), or others. [1=strongly disagree, 7= strongly agree]	7
Please elaborate briefly on the societal goals or collective capacity that the project is fostering?	Q1 We already created the group of trainers who now meet on a regular basis. In the sense of bringing people together, we do a lot. We also tried to form a group of youths, which didn't yet work out, but maybe this will change. Q2 Resilience is such a big work. But when we do the research process, e.g. with regards to racism there was a sense of "This is how you speak up and advocate for yourself". The first group, when we talked about the Call for Action, these were moments where we supported the collective capacity to advocate common goals. I am not sure about the resilience part, though. On the level of young people, I would give it a 7. I'm not sure about other participants. On the trainer level we have some activities that would count towards that. Bringing people together, building networks, fostering exchange, maybe it's a 6. With regards to the trainers, for instance, we are building resilience against their superiors, critically thinking about their working conditions, especially with Covid, in exchange with others. Q3 It is part of our research goals to contribute to 5 gender equality, 4 quality of education, 8 decent work and economic growth, 10 reducing inequality. RRI principles are also strongly built into the PAR approach. Children's rights are also specific to our case, have a voice, make your own decisions about your life, and so on. SDGs are not targeting problems such as employability, our work has the dimension of questioning all those things, questioning the roots of these problems. We work from a strong political understanding where we critique the system itself. What are we integrating youths into? What is the future for the young people we are anticipating? Low wage work for the rest of their lives? What kind of achievement is that anyway?
Political impact	
The project stimulates the discourse between political representatives and the engaged actors in the project. [1=strongly disagree, 7= strongly agree]	7



Project results have an impact on political decisions, procedures or political institutions. [1=strongly disagree, 7= strongly agree]		0 no response
How do you see any political impact evolving from your project?	Q2 We are aiming for it, right now nothing has changed. It's too early to say.	
Ecological impact		
The project supports measures to protect natural resources, to counteract pollution, or deals with any other environmentally sustainable aspects. [1=strongly disagree, 7= strongly agree]		1
The project contributes to a better understanding for environmental topics. [1=strongly disagree, 7= strongly agree]		1
Please reflect briefly on the socio-ecological impact your project creates?	Only if young people want to focus on this topic, which didn't happen as of yet.	
Sustainability (social, economic, ecological impact)		
The project has a clear plan on how to sustain and make use of the results after the project end to create further social, economic or ecological impact. [1=strongly disagree, 7= strongly agree]		4
Project results are transferable to other contexts. [1=strongly disagree, 7= strongly agree]		7
Please reflect briefly on the transferrability and wider sustainability of your project results? In which context do you see this taking place, e.g. at the level of concerned communities?	Q1 We will of course use the project results further after the end of the project. There is a high probability that things will continue. Although we don't have a plan defined in depth, we will have the Actionbound, training materials, inclusive toolbox, and so on after the project ends. We have plans, but they are not laid out yet. Q2 This is very much intended, and our results will be helpful in analysing the education system. → transferability (Q2) vs. impact (Q1)	
Economic potential		
The project generates economic impact, such as cost reduction, new job creation, new markets, new business models, etc. [1=strongly disagree, 7= strongly agree]		1
Please reflect briefly on what kind of economic or socio-economic impact the project creates or expects to create?	It's not part of the project, it doesn't make any sense to even aim for that. We are questioning if this makes sense at all as a goal.	
Does the project deliver concrete tools to meet any political, socio-economic or ecological challenges. If so, could you briefly describe them?	Yes, the inclusive toolbox. With the participatory evaluation event, there will probably also be some tools for another audience, the associations and the coordinating offices.	
Do you have any other comments you would like to share? Any other considerations regarding your Citizen Social Science approach that have not been covered so far?	Is there any socio-political impact that we haven't mentioned yet? Foster participation in areas where young people don't have a lot of possibility to co-determine the structures they are a part of Impact for the trainers, that can now interact differently with youths, their superiors, etc. Changes in the ways programmes are designed and evaluated Making the social sciences available to young people Socio-political: Who is perceived as "knowers", whose expertise is counting, and so on	

Annex 1.4. Self-assessment Buenos Aires

What is the name or acronym of your Citizen Science project, initiative or proposal?		CoAct Riachuelo
Operationalisation of dimension 1: Science		
Scientific objectives		
The scientific goals are sufficiently clear and authentic. [1=strongly disagree, 7= strongly agree]		5
The scientific objectives can be reached by involving citizens and other relevant actors in the scientific process. [1=strongly disagree, 7= strongly agree]		7
The scientific objectives address socially relevant problems. [1=strongly disagree, 7= strongly agree]		7
Please reflect briefly on your scientific objectives and what kind of social issues they address?	Scientific goals: it depends about whom we are talking - it is clear when we talk to other scientists; the population has some confusion it is complicated as such; a 5 on average Citizen science approach makes sense, it was developed in this sense; not only citizens will contribute, but rather organisations and groups of people, it is referred to the collective and not on individual citizens (not sure if it can be called community science, as the community itself is not producing the research process; the drivers are still academics together with FARN)	
Data & Technology		
The project follows clear and transparent ethical guidelines. [1=strongly disagree, 7= strongly agree]		7
The project has a data management and privacy protection plan. [1=strongly disagree, 7= strongly agree]		7
The project has an open interface to connect to other data sources and platforms (e.g. for data exchange). [1=strongly disagree, 7= strongly agree]		7
The generated knowledge and data is shared publicly, given that this is in accordance with ethical and scientific guidelines. [1=strongly disagree, 7= strongly agree]		7
Please reflect briefly on your ethical guidelines, data management and related aspects?	Ethical guidelines: it is clear and understandable Data privacy & protection plan: yes we have it and we have not really applied it fully yes, we are all the time concerned about that (we have anonymised the interviews) Open interface: yes it will have, it is a target to connect to other data sources; Public sharing: yes it should be, it is not done yet on the platform, the knowledge from the workshops has been shared with participants and in general communication.	
Evaluation & Adaptation		
The project has an evaluation concept to assess scientific outcomes. [1=strongly disagree, 7= strongly agree]		6
The project has a participatory evaluation approach, giving a voice to the participants in the evaluation design, process and results. [1=strongly disagree, 7= strongly agree]		3
The project has an evaluation concept that considers the benefits for and impact on the involved scientists. [1=strongly disagree, 7= strongly agree]		2
The project has an evaluation concept that considers the impact on the individual participants. [1=strongly disagree, 7= strongly agree]		5

The project has an evaluation concept that considers the benefits for and impact on other engaged stakeholders (e.g. the members of the Knowledge Coalition). [1=strongly disagree, 7= strongly agree]		5
The project has an evaluation concept that considers the impact on wider society, ecology and economy. [1=strongly disagree, 7= strongly agree]		4
Feedback and evaluation results are continuously taken up by an adaptive project management. [1=strongly disagree, 7= strongly agree]		7
<p>Please elaborate briefly on your evaluation concept to assess the scientific outcome? What is your main scientific question and how do you plan to assess it?</p>	<p>The main output from the platform is the platform itself, it need to be working and produce scientific knowledge; Scientific outcome: yes, a 6 Participatory evaluation: participants have a voice in research design but not in evaluation; it is not something that we have in our mind; yes we do have an evaluation section in each workshop it is on activity evaluation; 3 Impact on scientists: we have reflection sessions; we do not focus on impact on researchers; it not really a focus of the project; it is not a target and it should stay as it is. it has an impact; as a researcher one is always evaluated; Impact on individual participants and other engaged stakeholders, and wider society: for some individuals there is evaluation; it is a target to know how the project changed the life of co-researchers; there is no detailed concept yet; it is a 5 and for the last 4 (as the project is too short to do that). Adaptive project management: yes, we are all the time adapting, also Covid has pushed us to be very flexible; we always consider the difficulties that participants might have in designing the next activities; e.g. internet access is payed now for online activities as it was realized that there is a problem with the internet connection.</p>	
Co-operations & synergies		
The project fosters co-operation with other projects and initiatives. [1=strongly disagree, 7= strongly agree]		7
The project connects experts from different disciplines / social fields / sectors. [1=strongly disagree, 7= strongly agree]		7
<p>Please reflect briefly on how your project cooperates with other organisations, projects and initiatives? Are you connected to relevant stakeholders?</p>	<p>co-operation: that is something that is kept in mind when contacting other teams or projects during the knowledge coalition management; some of them are community projects and cs projects related to the environmental protection; disciplines: yes, maybe too much :-)</p>	
Impact of dimension 1: Science		
Scientific knowledge & publications		
Research results are actively contributing to the scientific discourse (e.g. via scientific publications, blogs, etc.). [1=strongly disagree, 7= strongly agree]		6
Participating actors are included in publications either actively or they are recognised as contributors in the publications. [1=strongly disagree, 7= strongly agree]		5
Scientific project results are taken up by other projects. [1=strongly disagree, 7= strongly agree]		6
The project leads to new research questions, new projects or proposals. [1=strongly disagree, 7= strongly agree]		7
<p>Please reflect briefly on your strategy for dissemination & exploitation of your scientific results? In which formats and for which target groups are you</p>	<p>Scientific discourse: strong potential, two PHDs worked upon; outcomes not yet, it is in the process; stakeholders included in publications: with co-researchers is though, we do not have co-researchers continuously participating; it will not happen; with organisations yes; other projects: too early, but there is a contact</p>	



publishing your results? Where and how are the project results being taken up?	already with other projects; we have been invited by UNDP to include our project, they invited us to talk about what we are doing ... New research questions and proposals: strongly agree	
Knowledge transfer		
The project eases the access to local and traditional knowledge resources. [1=strongly disagree, 7= strongly agree]		7
The project contributes to a mutual understanding of science and society. [1=strongly disagree, 7= strongly agree]		7
The project creates or supports interfaces between science and policy. [1=strongly disagree, 7= strongly agree]		6
The project creates interfaces between science and Civil Society Organisations. [1=strongly disagree, 7= strongly agree]		7
How sustainable do you think is the established knowledge transfer? And where do you see most potential for a sustainable knowledge transfer?	FARN has the role to sustain the knowledge transfer; strong commitment working in the basin for over 20 years. traditional knowledge sources: plenty this is the whole purpose of the platform and the micro-workshops mutual understanding science and society: yes, it is again the platform purpose science and policy: we keep it in mind, it is not a strong purpose science and civil society organisation: this is the strong point of FARN	
Operationalisation of dimension 2: Citizens/engaged actors		
Target group alignment & options for involvement		
The project's objectives (also non-scientific) are jointly agreed with participants, clear and authentic. [1=strongly disagree, 7= strongly agree]		7
The options of involvement for participating citizens and other relevant actors are attractive. [1=strongly disagree, 7= strongly agree]		4
The project offers a variety of options to get involved (depending on interests, availability, knowledge, ...). [1=strongly disagree, 7= strongly agree]		5
Participants can choose to engage in various project phases (e.g. during definition of research questions, data gathering, data analysis, dissemination of results). [1=strongly disagree, 7= strongly agree]		5
Please reflect briefly on your engaged actors: Who are direct participants of the project, who are relevant other stakeholders and who are target audiences?	co-creation with FARN and participants involvement options hindered by COVID pandemic inviting different people with different interest, but not really offering different options options to participate in all phases, but they cannot really choose where to participate Objectives: maybe not with the participants, but we do have a lot of discussion with FARN, the platform is created with participants, the objectives of the platform are discussed with participants, 7 attractive participation: in covid time no, it would need face-to-face; it is useful but the virtual meetings are difficult; variety: we are inviting different people with different interest to different activities; we design the options of involvement considering these possibilities; different phases: they can not choose, they can reject the invitation, they are invited to different activities in different phases, the co-researchers are many, not all invited to all activities; we have co-researchers involved in all phases;	
Supporting material & communication		

Supporting material is aligned according to different target groups (e.g. age, language, ...). [1=strongly disagree, 7= strongly agree]	7
The different project roles and responsibilities are clear to all participants and transparent. [1=strongly disagree, 7= strongly agree]	7
Citizen participants can interact and communicate with scientists and other project actors during various phases of the project (e.g. research design, data collection, data analysis, dissemination of results). [1=strongly disagree, 7= strongly agree]	4
Please reflect briefly on your communication strategy with your engaged actors: when and how are you communicating with them and is the communication two-ways (e.g. can it also be initiated by the participants?)	not sure if e-mail that is now is the right way to approach them; not yet and open channel established yet, but planned (e.g WhatsApp group) Supporting material: yes transparency of roles: yes, part of the informed consent process; bi-directional communication: there is an e-mail, but this it probably not the right way; we are open to them and provide them phones and e-mails there is not an open channel for this dialogue.
Outcome & impact of dimension 2: Citizens/engaged actors	
Knowledge, skills & competences	
Participants achieved a personal learning outcome. [1=strongly disagree, 7= strongly agree]	6
The project contributes to a better understanding of science and/or new methods for knowledge production. [1=strongly disagree, 7= strongly agree]	7
The project contributes to a better understanding of the specific issues of concern amongst the participants. [1=strongly disagree, 7= strongly agree]	7
Participants achieved a personal benefit (other than mentioned above). [1=strongly disagree, 7= strongly agree]	7
Please reflect briefly on what kind of learnings or personal benefits participants achieve?	new methodologies, using new platforms, using the platform getting more info on the basin, water quality in an educational setting with schools depending on the target group; bringing scientific knowledge to stakeholders other benefits: Impact and action in transformative action; difficult to achieve transformation; personal benefits to transform their reality and this is really difficult to achieve learning outcomes: 6, depending on the actor; the online environment is always a learning outcome, we had this feedback after the workshop, by the platform people will have information on the basin; co-design the water quality will be in an educational setting with schools better understanding of science:7, we are trying to bring scientific knowledge to a more diverse group of stakeholders; better understanding about the issue of concern: 7, we are trying to provide the available information in a more accessible way, personal benefit: transformative action is targeted; we want this, mainly for achieving personal benefits of participants; to transform their reality, this is really hard;
Responsibility, ownership & engagement	
The project fosters ownership and responsibility for the project goals amongst the participants. [1=strongly disagree, 7= strongly agree]	7
The project contributes to a personal change in behaviour amongst project participants. [1=strongly disagree, 7= strongly agree]	2
The participants are motivated to continue the project or get involved in similar activities. [1=strongly disagree, 7= strongly agree]	7

7= strongly agree]		
<p>Please reflect briefly on how and when this perceived ownership, responsibility and change in behaviour is taking place? Are there any kind of activities continued by the participants? Also, please add your observations if you notice other forms of engagement emerging with any engaged group of actors or stakeholders.</p>	<p>ownership is crucial to achieve the goals behaviour change not the focus change in the organisations is envisioned, not personal behaviour authorities are expected to participate and they are expected to change their behaviour focus on policy change ownership: 7, without ownership amongst participants we can not achieve these goals; behavioural change: not so sure, it is more about change in organisations related to public policy not in terms of personal behaviour; maybe for natural protective areas it could be so that they take of them and do not pollute them. the participants are motivated to continue or get involved: the fact that we are connecting co-design activities with farm activities and other activities of organisations in the basin through the year is connected to this point;</p>	
Operationalisation of dimension 3: Socio-ecological, socio-economic aspects		
Dissemination & outreach		
The project makes use of different media to reach a wide public audience (e.g. print, online, social media, etc.). [1=strongly disagree, 7= strongly agree]		7
Project results are made available to a wide public audience, in appropriate understandable formats (e.g via videos, etc.). [1=strongly disagree, 7= strongly agree]		6
The project includes innovative methods for dissemination (e.g. co-operation with artists, etc.). [1=strongly disagree, 7= strongly agree]		6
The dissemination strategy includes bi-directional communication for the general public. [1=strongly disagree, 7= strongly agree]		6
<p>Please reflect briefly on your dissemination and outreach approach: Have you found any very successful or unsuccessful way of communicating with the wider public about your Citizen Social Science research?</p>	<p>communication and media: is planned to do when the platform is ready to increase the use of the platform; it will be 7 to make it known by other people. understandable formats: information about the platform will be accessible, tested with different participants; papers & reports are written in English mainly which is a throwback; but blog-post are translated in Spanish and communicated to our own channels; innovative methods: a deliverable is going to replaced by a video by farm; bi-directional communication: both the organisations have information in their webpages and their will be an option to be interactive, people being able to contact and ask questions; we always provide e-mails in presentations etc.</p>	
Co-operations & synergies for communication		
The project fosters co-operation with non-scientific organisations. [1=strongly disagree, 7= strongly agree]		7
The project leverages existing networks and civic society organisations for dissemination. [1=strongly disagree, 7= strongly agree]		7
<p>Please reflect briefly on synergies and cooperation with non-scientific and/or civic society organisations? Is there something that worked especially well or that turned out to be very difficult?</p>	<p>leveraging on existing networks from FARN and CENIT, network of popular libraries that are key stakeholders for training and dissemination; constantly finding new networks to include them in the KC</p>	
Impact of dimension 3: Socio-ecological, socio-economic aspects		

Collective capacity	
The project creates or fosters a community / collective. [1=strongly disagree, 7= strongly agree]	5
The project fosters resilience and the collective capacity to advocate common goals. [1=strongly disagree, 7= strongly agree]	7
The project supports wider societal goals, such as the Sustainable Development Goals (SDGs), Responsible Research and Innovation (RRI), or others. [1=strongly disagree, 7= strongly agree]	7
Please elaborate briefly on the societal goals or collective capacity that the project is fostering?	<p>concept of the basin may be theoretical and it might contribute to seeing it as a collective platform uses can be called a community common goals: environmental resilience is very strong aspect 3 topics of the platform are strongly related to the SDGs</p> <p>collective: this is not there, it will try to foster, but not necessarily there; maybe the platform users can be called a collective; collective capacity to reach common goals: yes, all environmental goals are common; resilience is a very strong aspect in this context; farn is working since long time in the basin, they have a lot of knowledge what has not worked so far; link to SDGs: the three topics of the platform itself are strongly related to SDG;</p>
Political impact	
The project stimulates the discourse between political representatives and the engaged actors in the project. [1=strongly disagree, 7= strongly agree]	6
Project results have an impact on political decisions, procedures or political institutions. [1=strongly disagree, 7= strongly agree]	7
How do you see any political impact evolving from your project?	it is an aim, but it is not a 7 because it has not been fully achieved; trying to make it a conversation than a discourse based on previous experience from FARN there was already a public policy impact; so it can be expected that this will be achieved again
Ecological impact	
The project supports measures to protect natural resources, to counteract pollution, or deals with any other environmentally sustainable aspects. [1=strongly disagree, 7= strongly agree]	7
The project contributes to a better understanding for environmental topics. [1=strongly disagree, 7= strongly agree]	7
Please reflect briefly on the socio-ecological impact your project creates?	/
Sustainability (social, economic, ecological impact)	
The project has a clear plan on how to sustain and make use of the results after the project end to create further social, economic or ecological impact. [1=strongly disagree, 7= strongly agree]	6
Project results are transferable to other contexts. [1=strongly disagree, 7= strongly agree]	7
Please reflect briefly on the transferrability and wider sustainability of your project results? In which context do you see this taking place, e.g. at the level of concerned communities?	The plan is not completely clear yet, but will be elaborated platform will be open source; the process might be useful for others in the future; process documented and can be used and adapted specific tool for specific issue, but maybe it can be useful for another project; other goals the project may contribute to: ESCAZU: https://www.cepal.org/en/escazuagreement contribute to access to public



	<p>participating</p> <p>sustainability after the project end: it has not yet a clear plan; we know we have to do this. there are many ideas: to work with authorities, to work with media</p> <p>transferability of project results: the platform will be available to be used for other context; we are developing a specific tool for a specific issue, but information will be open source, maybe it is useful for another context; not only the platform, but also the process that was created is documented and maybe re-produceable and transferable.</p>
Economic potential	
The project generates economic impact, such as cost reduction, new job creation, new markets, new business models, etc. [1=strongly disagree, 7= strongly agree]	1
Please reflect briefly on what kind of economic or socio-economic impact the project creates or expects to create?	economic potential: no
Does the project deliver concrete tools to meet any political, socio-economic or ecological challenges. If so, could you briefly describe them?	the platform itself to connecting different experiences
Do you have any other comments you would like to share? Any other considerations regarding your Citizen Social Science approach that have not been covered so far?	<p>pandemic changed everything in the project; face2face meetings are needed urgently and may compromise the objectives team has not met for over a year personal situations affected by lockdown</p> <p>the pandemic content changed everything, this project needs the face-to-face meeting and this challenge may compromise our targets, it's a challenge we have to face every day. the team has not met for more than a year face-to-face; there are the personal contexts of the lockdown;</p>

Annex 2: Webinar documentation

On January 27th, 2021 we organised the first public CoAct webinar **“Co-shaping evaluation in Citizen Science? Towards more participatory approaches in evaluation of Citizen Science”** in cooperation with ECSA and EU-Citizen.Science. The present document is the webinar workbook which contains all relevant information about the webinar, as well as further readings on the covered topics. Our goal is to present you with a good and balanced collection of know-how to enable mutual learning and further develop robust participatory evaluation approaches.

Speakers

- Anna Cigarini (University of Barcelona – CoAct)
- Johannes Jäger (IEA Paris/Paris-Saclay)
- Barbara Kieslinger (ZSI – CoAct)
- Katja Mayer (ZSI – CoAct, University of Vienna)



Obialunanma Nnaobi (Vilsquare)

Teresa Schäfer (ZSI – CoAct)

Katie Richards-Schuster (University of Michigan)

Stefanie Schürz (ZSI – CoAct) (Facilitation and technical assistance)

Agenda and formats

Min	Section
10	Arrival and Welcome
30	Co-Evaluation Primer: Barbara Kieslinger, Katja Mayer, Teresa Schäfer
5	Break
45	Conversations on experiences: Katie Richards-Schuster, Obialunanma Nnaobi, Johannes Jäger, Anna Cigarini
30	Discussion/Q&A
10	Feedback and Sendoff

Introduction

Citizen Science is a means of bridging science and society. In addition to the generation of scientific knowledge, Citizen Science activities are particularly well-equipped to respond to societally relevant questions, contribute to science communication and foster scientific literacy in society. While all these aspects are highly relevant for citizen engagement, empowerment and social innovation, they are rarely evaluated in a coherent way. Current evaluation activities in Citizen Science tend to focus on scientific aims, data reliability, and at most the socio-ecological relevance of the results. In the case of projects with a more accentuated educational goal, these are complemented by an assessment of the learning gains at the level of individual participants. Wider societal and political implications are hardly ever assessed, which is exacerbated by the fact that they are notoriously hard to measure.

During the discussions at the [2020 ECSA Conference](#), it became clear that there are already a lot of evaluation instruments available – including digital ones – and that some of them also enable participatory dimensions. However, it was reported that few of these instruments are adopted, if any at all. Is it because they are too little known? Is it because it is so difficult to create content-independent, digital environments that enable participatory evaluation for many domains and research questions? Or is it because evaluation is often tacked on to ensure compliance, instead of being a central part of research design? This webinar is dedicated to discussing strategies, formats and tools for participatory evaluation with a special focus on co-evaluation.

Co-evaluation is a form of participatory evaluation that initiates the conversation on expectations, objectives and impact already at the start of a project or initiative, either when the program or research design is co-created with different stakeholders or at the latest when the participation of actors is negotiated. The main difference between co-evaluation and conventional types of research evaluation is that participants are involved in the decision on project goals and evaluation instruments.

Objective of the webinar

Participatory evaluation is an approach that aims at giving voice to the stakeholders of an intervention in its evaluation design, process and results. This webinar will shed light on the specificities of this methodology, as well as challenges and opportunities related to its application in Citizen Science. The aim of the webinar is to furthermore provide an overview on co-evaluation as a strategy and to discuss which respective approaches and options have been available for a long time in participatory research and Citizen Science, how they have been received, what opportunities they have opened up, what obstacles have been overcome, but also what we can learn from them for the future.

After an introduction and an overview about the state of the art of evaluation (participatory and non-participatory) in Citizen Science, core principles of co-evaluation will be presented. Experts will then discuss their experiences on a panel, with a special focus on how to approach participants as evaluators, current challenges in times of crisis and physical distancing, and resulting digital options for more participation in evaluation.

This webinar is targeted towards researchers, evaluators, project designers, and communicators working in a participatory research and Citizen Science context. The objective of co-evaluation is not only to promote discussion and learning for the scientific dimension of a project, it should also promote a project's impact including change in the living environments of project participants. Thus the discussions – for example how



to best approach participants as evaluators – are useful to people involved in Citizen Science, programme design, policy, and planning.

Topics

Participatory evaluation in Citizen Science, co-evaluation, how to approach participants as evaluators, social impact

Summary of the Webinar

The guiding principle of the panel was to bring together different horizons of experience. Because the majority of evaluation approaches in Citizen Science are still primarily top down and ex-post, we invited people from diverse fields to join the conversation on participatory evaluation with their experiences and share their particular perspectives on the issue. These backgrounds include programme evaluation, youth work and social work, philosophy of science, and citizen social science. With our panelists sharing how they co-design their evaluation activities, we wanted to highlight the already existing body of knowledge, including the various benefits and limitations they have already come across.

Because an hour of discussion only allowed us to touch on the variety of important experiences, many interesting aspects were addressed only shortly and not in the detail owed to them. In the following, we summarise the central themes that emerged from the conversation, some of which we broadened with additional information and sources.

Participatory evaluation and co-evaluation: Preconditions and aims

The panelists were united by the experience that participatory evaluation made both research processes and programme design more robust, but that it did not necessarily make it easier. Such evaluations require extensive preparation, commitment of time and resources, as well as a willingness to "get down to the nitty-gritty," i.e., to open up science in such a way that feedback can be incorporated directly into the process.

Furthermore, it is necessary to plan for **capacity building**, in the sense of creating a baseline of skills and a communication culture that enables participatory evaluation in the first place. Capacity building may include **trainings**, where participants learn about processes, methodologies, and about how to make sense of these in line with their own expectations and potential impacts. They may also be instructed in **valuation processes**, reflecting their values and norms in relation to the project and its objectives. Among other things, this has the double benefit of sensitising participants as well as the involved academic scientists to **multi-perspectival approaches**. It is also a way of addressing the fact that deliberative processes do not always



lead to consensus, nor should they. As Johannes put it, integrating different standpoints and still moving forward with a process enables a “**collective intelligence**,” and in turn cooperation and collective action, that is not possible nor valued in a traditional research or evaluation process. Even more, such a **deliberative approach** directly contradicts the traditional scientific efficiency logic, as they take a lot of time, are highly complex, and do not necessarily end with consensus, or a fixed output for that matter. However, integrating different forms and formats of expertise and authenticity and being open to the **diversity** of actors means enabling their lived experience to inform a more comprehensive evaluation process, and in turn facilitate a **democratisation of knowledge** and more **sustainable change**. As Obialunanna pointed out, experience shows that the more stakeholders with varying backgrounds are involved in the evaluation, the more **validity** is ascribed to the results, while it also creates **shared ownership** of such processes and their outcomes. Stakeholders also bring invaluable **field-knowledge** to the table that otherwise would be inaccessible, which contributes to the overall quality of the process. In a similar vein, Johannes pointed out that, contrary to the disinterested, neutral, or objective ideal of science, it *does* matter who does the research.

Another aspect that feeds into the complexity of participatory processes in general and co-evaluation in particular is the question of how to deal with **shifting expectations** and **evolving project goals** in practice, as solutions need to be specific to the context they are employed in. One dimension of this balancing act is sensitising all participants – academic and non-academic – to existing **power relationships**, and to address such relations throughout the participatory process. As academic scientists and facilitators, it is imperative to create **safe spaces for participation**, to realise when to step back and let our participants take the lead, but also when we are needed to step back in, in a dynamic process much like a dance, as Katie called it. Power must be shared for a participatory process of any kind to be successful. Another, closely related dimension is building and nurturing **trust** between the diverse actors in the process. A carefully designed co-evaluation helps to create robust and trusting relationships, even if it takes **time and resources** to understand the scope and modalities of participation that each actor feels comfortable with. This also means introducing the concept of evaluation itself with care: Our panelists describe their encounters with **scepticism towards evaluative practices**, as participants thought they were being evaluated themselves. Thus, when participants become co-evaluators, it is key to explain how they may co-shape the evaluation process to help ease them in. It might also be good to use less loaded terminology, such as “reflection”, “impact design”, and so on. The question of what language to employ and how must also be considered more generally, as language might form a **barrier to entry** that excludes important stakeholders from a co-evaluation. The same holds true for **methodologies**, which must be chosen according to the specificities of the participants as well as the evaluation process. This is especially pertinent as current requirements regarding social distancing due to the pandemic necessitate many projects to reconsider approaches for



digital spaces that were initially designed for physical interactions. This fundamentally recontextualises the **digital divide** as an obstacle to equal participation, when online activities are often the only interactions allowed. Thus, the question of how to reach populations that don't have access, or feel less comfortable using digital technologies, needs to be considered. Answers might be to rely not only on digital communication, and if digital technologies are employed, to keep them low threshold and low bandwidth. Finally, the tools to be employed need to be carefully chosen, tested, and adapted or dropped where necessary and sensible. Anna, for instance, gave the example of sending out physical research diaries to collect participant inputs and bridge the digital divide. In any case, the quality of the interaction as well as the materials produced needs to be monitored closely when transferring activities intended for physical interaction to a digital sphere, and there should always be **time and space for feedback**.

Generally speaking, achieving a trusting, respectful and sustainable collaboration is much easier if stakeholder engagement is **continuous and sustainable**, and sought **from the very beginning** of an endeavour. In this regard, it is also important to think about **valuation and rewards** for efforts spent in a co-evaluation. In terms of remuneration, this might mean providing "stipends" as recognition for both effort and time. Such contributions might enable participation in the first place, as it frees co-evaluators who have responsibilities as providers to their families, for instance. Other **benefits** that co-evaluation might bring include more usable and sustainable outputs that benefit a community, more visibility and stronger community processes, and the multiplication of efforts through the participants. However, harkening back to the shifting expectation touched on above, it is important to **actively engage with expectations, hopes and needs** that might arise from participatory evaluation activities. Otherwise, hard-earned trust might be damaged unnecessarily.

Responding to a question from the audience, the panelists also discussed how best to establish participatory approaches to evaluation in Citizen Science and to gain more **visibility** and generate more recognition. Katie reported that the installment of a **topical interest group** ("TIG") in the learned society helped a lot in that regard. Through TIGs, it was possible to organise sessions at conferences and with that bringing stakeholders from participatory evaluation exercises into the academic field to present their positions and experiences. In a similar vein, Obialuanma suggested to present **evidence** that participatory evaluation works, share best practices and through this capture the attention of the field. Johannes would like to see further visibility of participatory evaluation practices in the rest of science, as it is a very active field of research that gives answers where elsewhere there's a lot of complaining. However, he advised not to expect too much, as Citizen Science and traditional research projects operate under very different logics. Furthermore, he points out that participatory evaluation makes sense especially for projects that have been co-designed. For other

formats, such an approach would probably not be justified, since the necessary channels to collect feedback, for example, do not exist during the project.

All the topics addressed here form new starting points for possible deepening in terms of operationalisation. We will take up some of them and examine them in more detail in the near future, for example in further workshops in the context of Citizen Science conferences. (coming up: Citizen Science Association workshop series in May 2021).

Questions to ask when designing and implementing a participatory evaluation

- How can we best create environments for deliberative processes to tap into “collective intelligence”?
- How do we ensure the dialogues remain open, inclusive and fair?
- How do we design the participation so that also marginalized voices can take part?
- How to best monitor and use the shifting expectations and the evolving project goals in co-created settings?
- How to best incorporate feedback into the process?
- How to best systematise the many different forms and formats of input from co-evaluation?
- How is the quality of the approaches affected by going digital?
- Which are the best tools to employ, both offline and online?
- Digital divide: how to be inclusive by not relying solely on digital communication?

Speaker biographies



“Participatory research with young people is important because young people are experts in their lives, and their lived experience can and must shape knowledge developed about them and their communities”.

Katie Richards-Schuster is an Associate Professor and Director of Undergraduate Minor Programs at the University of Michigan School of Social Work in Ann

Arbor, MI, USA. Her research focuses on understanding the strategies and approaches for engaging young people in communities, the contexts and environments that facilitate youth engagement across settings, and the impact of youth participation in creating community change. She has worked in and with communities to promote youth participation and has led national and global efforts to increase youth voice in research and evaluation. She is a leading scholar in using participatory research and evaluation approaches with young people and communities and is the former co-chair of the Youth Focused Evaluation TIG within the American Evaluation Association.





“I realized early that having (all) stakeholders contribute to designing and implementing programme M&E systems leads to better understanding of the intervention, strengthens ownership, improves accountability and gives voice to the most vulnerable. The stakeholders own the process and are “Champions” in its implementation.”

Obialunanma Nnaobi is a development practitioner whose work combines elements of research, strategy and advocacy to support good governance causes, innovative use of technology and the empowerment of women and youth. As Co-founder at Vilsquare, she works with a wide range of partners to deliver on pan-African solutions to the continent’s infrastructural challenges. She has held key positions in multi-stakeholder initiatives in Nigeria like the Open Government Partnership (OGP) where she supports diverse stakeholders to collaboratively achieve shared accountability objectives and development targets. Twitter: @nmannaobi @vilsquare



“We must move away from metric madness, from our obsession with outcomes, towards a process-oriented form of evaluation that is tightly integrated with teaching, mentoring, and facilitation.”

Johannes Jaeger is an evolutionary systems biologist and philosopher. He is interested in developing a theory of knowledge that is tailored to open science, inspired by his work on organismic agency and innovation in biological evolution. He is the current D’Alembert Research Chair at the Université Paris-Saclay and the Institut d’Études Avancées (IEA) de Paris, and associate faculty at the Complexity Science Hub (CSH) Vienna.

Twitter: @yoginho

“Considering evaluation as an integrated research activity and establishing a structured dialogue with participants since the very beginning beyond objective and quantifiable measures is crucial to build trust and mutual understanding, and thus a reflective evaluation capacity.”



Anna Cigarini is a PhD candidate in information and knowledge society at Universitat Oberta de Catalunya. She is a member of **OpenSystems** (Universitat de Barcelona) in the **CoAct** project, and collaborator at **Dimmons** (Universitat Oberta de Catalunya). She holds a MSc in sociology and demography, a MSc in population studies and a BSc in statistics. Anna is interested in the intersection of the technical and

social aspects of technology. In particular, her research focuses on the governance of citizen sciences' communities of practice. Twitter: @anna_cigarini, @OpenSystemsUB, @dimmonsnet

“If we want to take co-design seriously we also have to take co-evaluation seriously.”



Barbara Kieslinger is a senior researcher and project manager at the Centre for Social Innovation in Vienna, Austria, ZSI. Since 2012 Citizen Science has been a topic of research for her, next to the relation between technological and social innovations. Barbara coordinated large research projects dealing with innovations in workplace learning and was recently involved in projects related to digital social innovation and the maker community. Barbara currently coordinates

an EC-funded project on open healthcare, which facilitates co-design of open healthcare for people with physical limitations. Barbara also serves regularly as external expert for the European Commission and reviewer for scientific journals and has recently been elected as part of ECSA's board of directors. Twitter: @bkieslinger



"In citizen science we need evaluation that matters."

Katja Mayer is a sociologist at the University of Vienna, Austria, who works at the interface of science, technology and society. Her research examines the interactions between social science methods and their public spheres, focusing on the cultural, ethical and socio-technical challenges at the interface of computer science, social sciences and society. In addition, she is Senior Scientist at the Center for Social Innovation in Vienna, ZSI and Associate Researcher at the

University of Vienna's 'Governance of Digital Practices' platform. Twitter: @katjamat



Teresa Schäfer studied Economics at the University of Vienna. She is senior researcher at ZSI and focuses her work on participation processes in digital social innovations and the assessment of their impact. Teresa has been leading the consultation process for the development of the Citizen Science Whitepaper for Europe and is work package leader for evaluation and impact assessment in several citizen science projects (e.g. CAPTOR, CoAct, EU-Citizen.Science). Teresa has many years of experience in participatory methods for design, evaluation and impact assessment, involving a broad range of citizens, like retired people, or migrants, in research projects in the 6th/7th FP and H2020.

Useful resources and links

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Annex 3: CSA Conference Workshop Documentation

Introduction

The workshop “**Participatory Evaluation in Citizen Science**” was organised in the context of the CitSciVirtual conference of the (mainly US-based) Citizen Science Association. It started from the observation that while Citizen Science is highly participatory, evaluation does not live up to this claim. Consequently, the ambition was to collaboratively tackle this theoretical and methodological gap and further develop existing approaches in the context of a practical Citizen Science case simulation.

The workshop was preceded by sharing materials outlining the host’s approach to participatory evaluation or “co-evaluation”, including a video and readings on the matter, as well as a pre-survey to collect the experiences and expectations of participants. The interactive virtual session on the 12th of May 2021 offered a limited number of participants a space for in-depth discussion and exchange. Structurally, the live session included a brief refresher on participatory evaluation (see presentation slides: <https://zenodo.org/record/4820791>), followed by collaborative case work in breakout groups. The results of these breakout groups were then reported in the plenary, where open questions were collected for future investigations.

Min	Section	Description
5	Arrival and Welcome	Short introductory round and welcome
15	Introduction	Brief introduction to the workshop and participatory evaluation in citizen science.
40	Breakout Groups	Case simulation: Participants discuss potential participatory evaluation approaches, addressing challenges and benefits of such participatory formats along the co-evaluation principles within the framework of a fictional Citizen Science case.
20	Plenary Discussion	Reuniting after breakout groups, each group reports the main points of their debate.
10	Feedback and Sendoff	

In the brief introduction, the workshop hosts discussed how different dimensions of evaluation in Citizen Science might be made tangible, specifically focussing on the open framework developed by Kieslinger et al. (2018). Here, evaluation is conceptually divided into formative (process and feasibility) and summative (outcome and impact) evaluation and further distinguished by three levels: Scientific, participant, and socio-ecological & economic. Listing typical (quantitative) key performance indicators applied in such contexts, the hosts then reframed evaluation in a participatory, bottom-up way that gives voice to the stakeholders of an intervention and involve them more closely in decision-making processes. Such a co-evaluative approach initiates the conversation on expectations, objectives and impact already at the start of the project, involving participants in the decision on project goals as well as evaluation instruments.

Six Principles of Co-Evaluation

Adapting the “Utilization-Focused Evaluation” framework from Patton (2008) to the context of participatory evaluation, the hosts introduced six principles that should guide the implementation of a co-evaluation, before presenting concrete examples of methodologies that can be employed in such a context.

Participant Ownership	Evaluation is oriented to the needs of the participants in an inclusive and balanced way. Participants take certain actions and responsibilities for project outcomes and their assessment.
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Openness and Reflexivity	Participants meet to communicate and negotiate to reach a consensus on evaluation results, solve problems, and make plans for the improvement of the project, evaluation approaches, and impact measures; input should be balanced and representation should be guaranteed for all involved stakeholders
Transformation	Emphasis is on identification of lessons learned, improvement of benefits and wellbeing, for all participants.
Flexibility	Co-evaluation design is flexible and determined (to the extent possible) during the group processes. The mix of formats and methods used should reflect the project aims and potentially empower marginalised perspectives.
Documentation and Transparency	Whenever possible and ethically desirable, evaluation procedures should be documented and made accessible to participants, or even the wider public.
Timing	Co-evaluation has to start as early as possible, but latest during the negotiation of research questions and design of methodology.

Case Simulation: Hog Farm Community Science

As a framing for the collaborative work, we elaborated a fictional Citizen Science case. In clearly defining the setting, involved actors, concerns and methodologies, the focus was then put on discussing entry-points and potential instruments for implementing a participatory evaluation.

Case Description
<p>Kaneesha is living next to a major hog farm and has been concerned with the air, water and odour pollution from the farm for a while. Furthermore, other residents have observed several violations of animal rights, and have heard of terrible working conditions. Numerous complaints to the company running the farm, to local administration and responsible politicians had achieved nothing. Together with other resident activists in her area, they organised an effort to monitor for pollution one year ago. Building on literature from citizen science, they contacted the local community college to initiate a monitoring action and to create tools to systematically collect information about the situation.</p> <p>The whole initiative grew fast into a community building and local activist experiment. Kaneesha and the others wanted to create a systematic and transparent participatory process, being inclusive to many voices in the area. Using instructions on the web and support from other groups, they have created a Do-It-Yourself aerosol sampler, which allows them to capture the spray from the farm that is reaching their</p>



neighbourhood. The content of the aerosol is analysed in the local college, together with teachers and students. Furthermore, the activists invited scientists from a university nearby to test the validity of their methods and results.

Moreover, Kaneesha and the local activist group used a whole array of systematic methods to document also the wider context of the problem, besides building a measuring device and collecting pollution data.

Information about the pollution and reports about health impacts and personal stories from residents about their health conditions and environmental observations were used to make the case for environmental harm to the state environmental authority. Although they are now receiving more attention due to the strong evidence base, and the case is attracting media attention, the process is dragging on longer than expected. Moreover, the relationship with the farming company became very difficult as they were not involved in the citizen science investigations and now appear even more uncooperative. Last but not least, some residents also working at the hog farm are in a moral dilemma, since they are both deeply affected by the pollution and would like to engage more, while also fearing a loss of their jobs.

The resident activists want to use the time to learn from their own process, having been too busy during it. Did they do everything right? What could they do better? And how could they best package their knowledge so that other activists can learn from it? How could they maximise their impact, while creating better living conditions?

Setting

Involved people:

- About 25 resident activists
- 3 researchers
- Several community college students and teachers (changing relations)

Concerns:

- Pollution
- Environmental justice
- Worker's rights
- Animal welfare
- ...

Methodologies

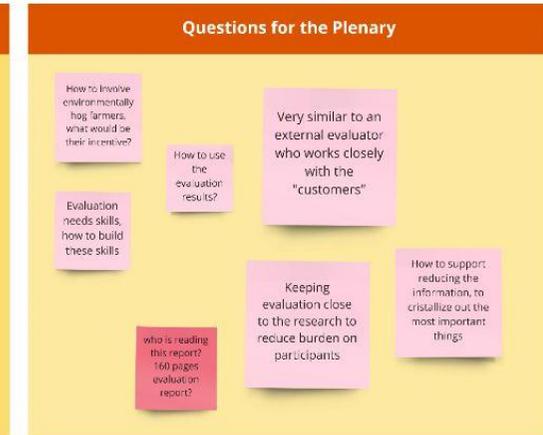
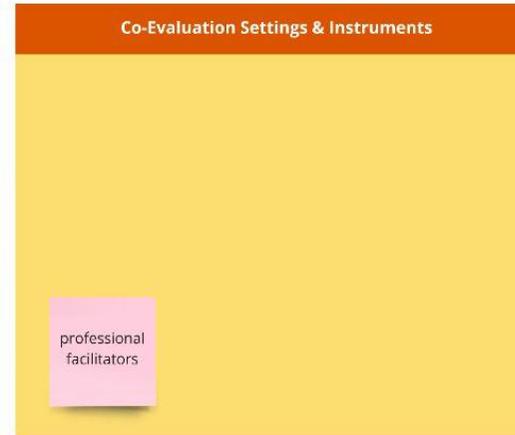
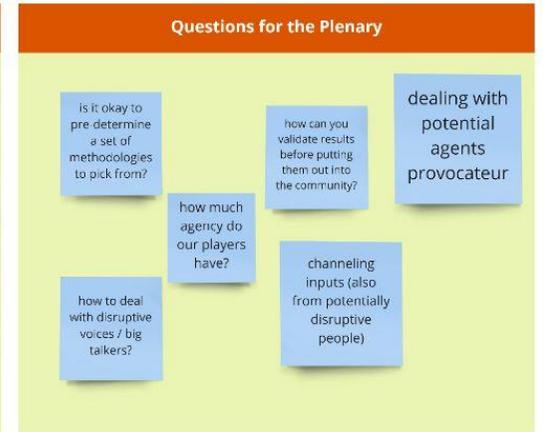
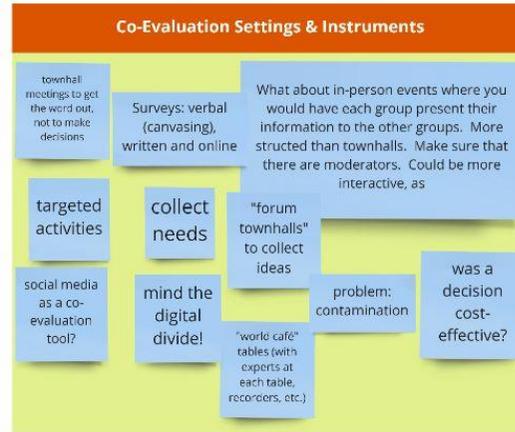
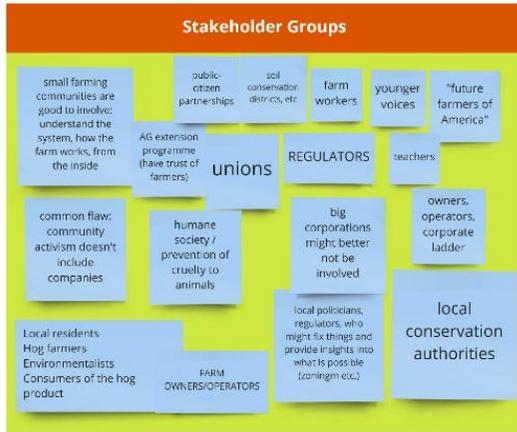
- Biographical interviews with locals about their problems
- Systematic monitoring in the form of environmental justice diaries
- Collective data analysis and interpretation
- Translation of results into presentable information for different stakeholders (including the farming company)
- Documentation of the process and creation of an association to receive funding and become a legal entity
- Creation of a logic model for evaluation, to better understand the input, the process, the outcomes, the outputs and the potential impact and to better align their strategy

Work in Breakout Groups

Within the context of this elaborate fictional case, the participants were divided into two groups and asked to discuss with the workshop hosts a set of questions aimed at scrutinising potential settings and instruments for a co-evaluation:

- What approaches do you think are most promising for designing a robust and participatory evaluation here?
- Which tools/settings could be used?
- Which of the 6 co-evaluation principles are particularly important to consider in this case?
- Who would have been the most important stakeholders to involve?
- How could the different expectations and needs be better included throughout the process?
- Which channels for reflection and feedback could have been implemented from the beginning?

To facilitate the discussion, the hosts prepared a Miro board structured along four categories: 1) potential stakeholder groups affected by the case; 2) expectations and aims these stakeholders might bring to the table; 3) possible co-evaluation settings and instruments arising from these; and 4) questions to bring to the plenary.



Learnings

While collectively discussing the intricacies of the case, a number of themes emerged. Looking at co-evaluation from the perspective of the academic system, the role of institutional review boards (IRBs) as gatekeepers was brought up. As participatory evaluation processes demand a lot of flexibility, they might not fit within the legal and organisational structures demanded within scientific organisations. Similarly, research funders have expectations of clear and quantifiable KPIs that might not allow for an approach of co-defining measures of success with participants. Co-evaluation might furthermore be hard to represent in informed consent procedures, which impacts not just IRB procedures, but might complicate the collaboration with citizen participants.

Altogether, the complexity of the scientific process was seen as a potential burden on participants that demands for careful calibration. Questions of how to build the skills to enable co-evaluation, to validate inputs before putting them out into the community, but also of how to support the reduction of information and crystallizing the most important things were brought up. One proposed solution to this set of problems was to keep the evaluation close to the research and thus reduce the burden on participants, although the question of how to accomplish this goal was left open. In a similar vein, the validity of pre-determining a set of methodologies to pick from was brought up, which also touches on the question of how much agency groups of participants have in a given process. It was also agreed that a lengthy and complicated evaluation report was not an appropriate result of a participatory evaluation and different formats should be considered.



The final thematic cluster touched on the question of how to bridge the diverse and often diverging goals and needs between different stakeholders such as investors, hog farmers, workers, residents, academic scientists, and so on, noting that the solutions and needs of some stakeholders might be detrimental to those of others. Although they may have different standpoints, the inclusion of the diverse stakeholders of an intervention turned out to be essential, as contrarian voices might resort to sabotaging a process from the outside if excluded. For instance, workshop participants shared how the exclusion of corporate actors in similar existing projects led to their disruptive self-involvement in the form of agents provocateurs, attempts at intimidation, and more generally the use of financial funds to undermine the projects. In any case, managing the expectations of different actors is essential for the success of a project.

The participants also proposed some methodologies that allow for the collecting and constructive discussion of different needs, such as forum town hall meetings and “world café”-style workshops with experts or professional facilitators guiding discussions at each table.

While the workshop participants agreed that more time for discussion would have been helpful, the most important feedback for the hosts was that thinking through the benefits and challenges of participatory evaluation via concrete experiences helps in understanding and tackling such an endeavour. Furthermore, it became clear that an extended workshop format needs to be considered in the future, offering the opportunity to reflect on concrete methods and streams of experience.



Speaker biographies



Barbara Kieslinger is a senior researcher and project manager at the Centre for Social Innovation (ZSI) in Vienna, Austria, ZSI. Since 2012 Citizen Science has been a topic of research for her, next to the relation between technological and social innovations. Barbara coordinated large research projects dealing with innovations in workplace learning and was recently involved in projects related to digital social innovation and the maker community. Barbara currently coordinates an EC-funded project on open healthcare, which facilitates co-design of open healthcare for people with physical limitations. Barbara also serves regularly as external expert for the European Commission and reviewer for scientific journals and has recently been elected as part of ECSA's board of directors.

Twitter: @bkieslinger



Katja Mayer is a sociologist at the University of Vienna, Austria, who works at the interface of science, technology and society. Her research examines the interactions between social science methods and their public spheres, focusing on the cultural, ethical and socio-technical challenges at the interface of computer science, social sciences and society. In addition, she is Senior Scientist at the Center for Social Innovation in Vienna (ZSI) and Associate Researcher at the University of Vienna's "Governance of Digital Practices" platform.

Twitter: @katjamat



Teresa Schäfer studied Economics at the University of Vienna. She is senior researcher at ZSI and focuses her work on participation processes in digital social innovations and the assessment of their impact. Teresa has been leading the consultation process for the development of the Citizen Science Whitepaper for Europe and is work package leader for evaluation and impact assessment in several citizen science projects (e.g. CAPTOR, CoAct, EU-Citizen.Science). Teresa has many years of experience in participatory methods for design, evaluation and impact assessment, involving a broad range of citizens, like retired people, or migrants, in research projects in the 6th/7th FP and H2020.



Stefanie Schürz studied Sociology and Science and Technology Studies at the University of Vienna. She currently works as a researcher at the Center for Social Innovation (ZSI) in Vienna after gaining experience as an organizational assistant at the University of Vienna and as a pedagogue at the not-for-profit Verein Wiener Jugendzentren. Stefanie works on two research projects funded by the European Commission related to Citizen Science and Participation. The projects deal with questions of participation in research design and evaluation, with a special emphasis on ethical considerations.

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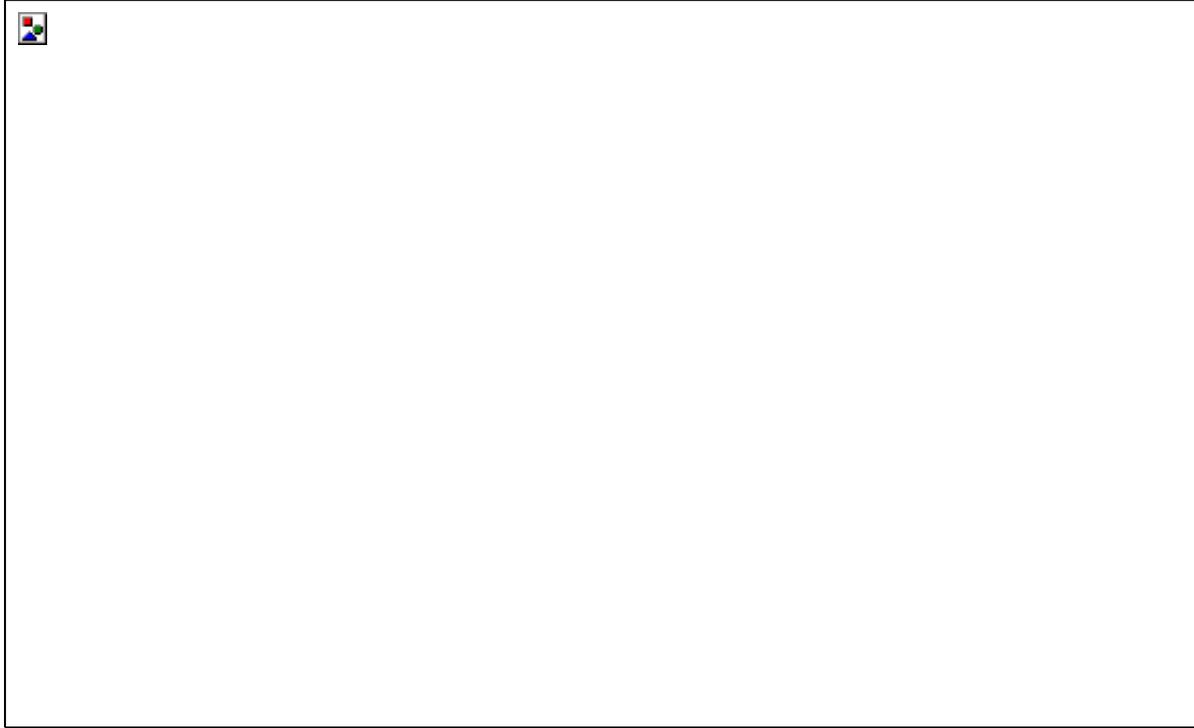
Online Resources

CoAct Project Website: <https://coactproject.eu/>

Zotero Group “Co-Evaluation in Citizen Science”: <https://www.zotero.org/groups/2761302/co-evaluation-in-citizen-science/library>



Annex 4: Documentation of Track at 1st Transdisciplinary Conference







Annex 5: Fteval Call for Special Issue

https://www.fteval.at/content/home/journal/aktuelles/fteval-Journal_54_Special-Issue_Citizen-Science.pdf

Call for Papers

While citizen science is by definition highly participatory, its evaluation and impact assessment practices often do not live up to this claim. In this special issue we will explore existing approaches to participatory evaluation that involve participants of citizen science activities in reflecting and assessing projects' or initiatives' processes and outcomes. This involvement may range from co-designing the evaluation strategy to creating evaluation or monitoring instruments to be used during and after the project, to name but a few. The special issue aims to collect and discuss a wide range of methods of participatory evaluation, informed by the experiences gathered not just in traditional citizen (social) science projects but in diverse fields such as development, social and youth



work (e.g. open evaluation, peer interviews, diaries, photovoice, storytelling, etc.). Authors are invited to elaborate on theoretical and practical grounds their experiences with participatory evaluation in citizen science. We further encourage contributions that reflect on participatory evaluation methods from other fields and their potential application for citizen science. Moreover, they should reflect on challenges, risks and pitfalls based on concrete experiences, and may also consider which approaches promise success in times of physical distancing and crisis.

Key questions and topics to be covered

We welcome contributions from citizen science, participatory social research, public policy, environmental justice, and related fields, as well as reports from practitioners, including related theoretical and practical perspectives from various other professions and disciplines. • What options are there for the design of participatory evaluation in citizen science and related domains? • What are the challenges and benefits of participatory evaluation for involved stakeholders and participants? • What should be the scopes for participatory evaluation and respective impact assessments, where to start and where to go? • What methods and approaches have proven to work well in participatory evaluation in citizen (social) science and citizen humanities? • How can the interfaces of research and policy and society be fostered with participatory evaluation, and what are the pitfalls to care about? • What legal and ethical issues must be considered and addressed when developing and implementing participatory evaluation?

Topics to be covered:

- Governance and planning of participatory processes
 - Evaluation in participation design
 - Power relationships and shifting power configurations
 - Monitoring processes and outputs
 - Capacity building
 - Creating trust and safe spaces
 - Reflexivity
 - Openness
 - Ownership of processes and results
- And many more...

Editors

Dr. Katja Mayer

Dr. Barbara Kieslinger

Mag. Teresa Schäfer

Mag. Stefanie Schürz

Submission Guidelines

Abstracts

Please submit your extended abstract by 15 September 2021 as MS Word, RTF or Open Document Text format



- 500 words
- Indicate which text format (see below)
- Author information (see below)

Full texts

Praxis-oriented reports: 2000 to 3500 words

Academic manuscripts: 3500 to 5500 words

Should your abstract be accepted, please submit your article via mail as MS Word or Open Document Text, including

- Title and subtitle
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- Submission of abstracts: 15 Sept 2021 (notification 15 Oct 2021)
- Submission of full papers: 31 Dec 2021
- Publication (print and on-line): June 2022

The journal

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Annex 6: Survey Responses from CoAct Summer School

	#1	#2	#3	#4	#5	#6	#7	#8	#9	#10	#11	#12	#13	#14	#15	#16	#17	#18
The learning goals were clear and well communicated from the beginning.	6	6	5	7	6	6	5	7	6	5	7	6	6	6	7	7	6	6
Practical knowledge was provided.	7	7	7	7	6	6	7	7	7	7	7	6	6	5	7	7	7	7
There was enough room for my questions and interest.	5	6	7	7	7	5	5	7	5	6	7	5	6	6	7	6	7	7
The time allotted was utilised/filled in an optimal way.	7	6	7	6	6	4	5	7	5	7	7	5	6	5	7	6	6	6
There was enough time for reflection and experience exchange with others.	5	5	7	4	7	5	3	7	7	6	7	3	6	5	6	5	7	7
My own involvement (e.g. interest, preparation, concentrated attention, cooperation, etc.) in the event was intensive.	4	6	6	6	5	5	6	5	6	7	7	6	5	5	7	7	6	5
I have achieved something important through this event.	7	7	7	6	7	6	6	6	6	7	7	6	6	5	7	7	7	5
The summer school was worth taking part in.	7	7	7	6	7	6	7	7	4	7	7	7	7	7	7	7	7	6
I consider it important to be strongly connected with the civil society side engaged in citizen social science activities.	4	6	7	7	7	6	7	7	7	7	7	7	7	7	7	6	7	7

1=strongly disagree, 7= strongly agree



	Have the scopes, benefits and challenges of Citizen Social Science become clear to you?	What was most surprising for you?	What did you like best?	What could be improved?	Do you see any potential to apply your knowledge gained during the summer school in your current or future research?	Which channels or means of mutual engagement with the civil society side of citizen social science would you consider most beneficial?	Any other comments?
1	Yes	No clear line between css and participatory approach	All	More or some reference to the south	Very much	Physical	No
2	Much clearer	How confusing and complex everything is but how useful	Mentoring sessions and the examples from projects	SOOOO intense. Sometimes we missed time to ask to talk. And it would have been nice to talk face to face	I do now. But still need to learn more		
3	Yes	Diversity of the workshops and seminars topics!		Hopefully for the next summer school, it will be possible to organize it face to face! (e.g. an intensive one week CSS in Barcelona :)	110% yes!!!	Using arts	Thank you very much for this course, it was very enriching!!
4	Yes, it was all clear and insightful	I loved the examples, were very inspiring to understand the CSS dimension	I loved some of the presentations that intersect design tools and methods with CSS	how keep all this interesting in touch and motivated to create new solutions in CSS?	Sure, maybe in my current and for sure for the future projects	Those ones that are more interactive, as it was the example of data and art collection	It was an amazing experience with lots of resources that for sure I will revisit for years. Thank you!
5	Yes	The session lead by the team from domestic data streamer	the session from domestic data streamer, and the workshops	The time session, 4h online is too much, even if there is a break in the middle. I think it is easier to lost concentration virtually	yes, a lot	face to face meetings	Thank you for your effort. I learn a lot.
6	yes, i can relate it with my own research projects in psychology and work place	baby shark music as energy booster	Art and Science session was best	session timings	yes	LinkedIn	more training sessions are needed



7	In some ways it has, it definitely broaden my knowledge on the topic and different aspects, but also confused me a bit.	That I have been doing Citizen Science in a lot of my previous projects	The presentations from outside projects, super motivating.	Better facilitation under the workshops, not all participants were participating, so sometimes you were talking with yourself. In these cases it could be great with a facilitator. And remember to lock things in Miro, so we can not move the things we are not supposed to move.	Yes! especially in the practise methods we learned as well as inspiration to my literature review	I think that the use of art and installations were super inspiring as well as the citizen labs	good job. and thank you for taken the time to organize this
8	yes, it was really clear	the possibilities and the ways in which CSS can make a difference in science related issues (and in the world in general)	the interactivity, the organization was really good. Nieves was really good at helping out, the breakout rooms were really helpful to connect with other participants and the mentoring sessions gave more meaning to the all course	could be less intensive, there were two weeks of really hard work (considering that I was working at the same time)	yes. I really enjoyed working with my group and we might keep close contact and might think of ways to make the project viable		Thank you for the organization and possibility to participate. I learned a lot.
9	Yes	Material, the ways thinks for finding solutions	Participation, I love it.	I think totally everything was good but some times speech wasn't clear and made us confused.	100%,definitely		No
10	Yes! You have provided such a diversity of views and so many inspiring examples! Congratulations!	I think I was expecting a much lower level, something basic, and I learned so much! Also, super interesting people have participated, great job with the selection ;)	The discussions! So many insights and sometimes challenging my own ideas, which is always a good thing in a course.	I was thinking a lot about how people were exhausted after the first week, and the second week participation was lower until the last day that it gained momentum again... But I don't really have a solution! Having the course more spread out (in one month for ex.) has also inconveniences, like people disconnecting between	Totally, I really hope I can build on what I learned in my next projects :)	I really liked the chatbot idea, it solves so many of the issues we've had with other apps... And the art-science-data interface is something I really liked although I haven't (yet) had experiences with this approach	Thank you thank you thank you! It was very visible how much effort you put into this. Congratulations!



			<p>sessions. I really liked that it was day after day of activities cause we could relate to the previous session easily and remember comments from other day's speakers/mentors... Maybe having a longer break in between or having one session in the morning (11-13) and one in the afternoon (15-17) would ease the intensity, but again, this will mean trainers from America would have to wake up super early and also we would have to book the whole day... Which maybe is actually what should happen, I feel that online conferencing and workshops are always put on top of regular work, so working 8-13, then eat, then course 13:30-18, that's mad! So maybe mental note: book the whole day for this type of events :)</p>			
<p>11 Yes, the school programme was very well thought out, and its design allowed an evolving and deep discussion on the scope, benefits and challenges of Citizen Social Science from very different perspectives and project experiences.</p>	<p>The variety of active projects already applying a CSS approach.</p>	<p>Hearing from a variety of speakers involved in different projects and based in different countries with diverse cultural contexts. I appreciated that the speakers did not shy away from discussing the challenges and concerns associated with CSS</p>	<p>I would have preferred a shorter school, e.g. fewer days with say three 1.5 hr sessions a day, e.g. two 1.5 hr presentations + 1.5 hr mentoring session. Nevertheless, the project team made a phenomenal effort to organise an online school and in my view, they achieved a fantastic result. It was obvious that a lot of work and thought went into organising the programme, the different types of activities and covering a wide range of topics.</p>	<p>Yes, I am about to start a project on seeds and I am keen to apply some of the knowledge gained at the school.</p>	<p>Email distribution list Community of practice with bi or monthly meetings Panel at ECSA Another school, hopefully face to face next time!</p>	<p>Thank you very much to the organising team and to all the speakers. I really enjoyed all the sessions, the discussions were thought provoking and inspiring. Congratulations on organising such a good</p>



		approaches.				learning experience with an online format.
12	yes, but still complicated	different terms for same things	group work	more time to talk about our own projects	Definitely	Thank you very very much for the school! It was so interesting and fun
13	Yes.	I can't think of anything surprising.	The diversity of examples, the practical exercises, the resources made available.	Less online time. The school might have been a bit longer (2 and a half weeks) but with just 2.5 or 3 hours a day, with breaks.	Yes, without a doubt.	Face to face meetings and workshops.
14	They have become clearer, but I think I need more information still.	The application of CSS in fields that I wasn't expecting	I liked the mentoring sessions best. We got to apply what we learned, had a lot of really interesting discussions and had a chance to get to know some of the other classmates better.	I think some short breaks during the sessions would be helpful (but you already did that) and making sure that speakers allow enough time for Q&A so that the session doesn't go too much over time.	Absolutely! I got so many good ideas!	I think the DataStreamer Group presented the most engaging and clear/simple ways for CSS but also looked like it provided a lot of information.
15						
16	Yes. Although, there was a lot that was covered in the Summer school and I am still going through my notes and the materials provided, and reflecting on it.	The variety of participants' and speakers' backgrounds and how interesting were the all talks and discussions we had - despite the fact that all of it was online! I was very surprised as well by the examples provided on Art &	The variety of topics covered, the speakers know-how, the practical exercises (in particular: Situational Analysis, Data management Plan; and Participatory Evaluation) and the	Most of the time, time was short! Yet, for an online school, I would not increase the number of screen hours per day. I'd suggest that maybe some topics and/ or practical exercises could be split (e.g. two running at the same schedule), and participants would choose to participate in the one they like best; in the end of practical exercises, everyone would	Yes! Including also the sharing, networking and keeping in touch with colleagues and speakers.	In-person, "eye to eye" (yes, despite all the technology around...!), and engaging with local organizations, citizens associations/ cooperatives, local government structures, and NGO's to name a few. Of course social media and online platforms are important, but for



	<p>Science - and I got a better perception of how these can contribute and allow for a shift in the mindset.</p>	<p>overall mentoring experience. The sessions on "Environmental justice", "Citizen Labs" and "Cooperation capacity", also brought a lot of new insights.</p>	<p>gather in the "main room" and share the experience, learnings, etc .</p>		<p>engagement, and as a starting point, I consider that the in-person contact - whenever possible -, is the most beneficial; and then, followed by social media channels and/ or online platforms, according to local context, age of participants, internet connection, etc. In my perspective, online tools and online engagement is most beneficial when: a) engaging teenagers; b) engaging participants from different cities/ countries, that are addressing the same social issue, environmental challenge,...</p>	
<p>17 The more I learn about citizen science, the more I see how little I know. But I think that participating in school has opened up a wide range of possibilities that I did not know (I come from the strictly scientific world, and until now I had not incorporated the social part of the sciences)</p>	<p>The simplicity in which the applied projects were shown, when in fact they had a very complicated background</p>	<p>What I liked most was that on the last day no one wanted to leave the Zoom because we were sorry to leave. It had never happened to me!</p>	<p>Do the exercise together on how to involve society in projects that are already created (and not co-created) by scientists, but that want to incorporate the social perspective to disseminate and reach more people</p>	<p>Of course! I am working in Citizen Science and I will incorporate the social dimension</p>	<p>The channels that involve them as much as possible and with issues that directly affect them</p>	<p>Thanks and hope to see you soon!</p>



18	yes	-	-	yes	-	-
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Annex 7: Table of Data Sources

Data Sources				
	Barcelona	Vienna	Buenos Aires	Consortium
Academic research teams	2020_Covid Self-Reflection: Self-reflection discussion, held online, guided by ZSI, employing Miro	2020_Covid Self-Reflection: Self-reflection discussion, held online, guided by ZSI, employing Miro	2020_Covid Self-Reflection: Self-reflection discussion, held online, guided by ZSI, employing Miro	2020_Covid Self-Reflection: Self-reflection discussion, held online, guided by ZSI, employing Miro
	2021_Self-Assessment: Survey filled-out interactively in the context of an online discussion guided by ZSI	2021_Self-Assessment: Survey filled-out interactively in the context of an online discussion guided by ZSI	2021_Self-Assessment: Survey filled-out interactively in the context of an online discussion guided by ZSI	Citizen Social Science School Reflection: Feedback survey sent to the participants of the Citizen Social Science School
	Co-Evaluation Roadmaps: Shared activity roadmaps with co-defined evaluation activities, updated regularly	Co-Evaluation Roadmaps: Shared activity roadmaps with co-defined evaluation activities, updated regularly	Co-Evaluation Roadmaps: Shared activity roadmaps with co-defined evaluation activities, updated regularly	
	Researcher Notes Observations noted by UB and ZSI researchers	Research Diaries by UNIVIE team on the project weeks		
		Additional Reflection Meeting Notes		
Knowledge Coalition	Expectation Padlet: Survey of expectations towards the project, collected via Padlet in the context of a KC workshop	Expectation Padlet: Survey of expectations towards the project, collected via Padlet in the context of a KC meeting	Expectation Padlet: Survey of expectations towards the project, collected via Padlet in the context of a KC workshop	
	Expectations survey: Follow-up survey on the expectations, which were grouped, commented and ranked in terms of importance	Minutes and Summaries of KC Meetings	Platform Expectations by KC members, collected in the co-design workshop	
		Expectation Survey: Longer survey by ZSI sent by UNIVIE via mailing list to members of the KC	Platform Expectations by KC members, collected in the micro-workshop	
		Expert Interviews Conducted by UNIVIE before constituting the KC	Interviews with KC Members Conducted by UNSAM/FARN	
		Interviews with Trainers Conducted by ZSI with trainers who supported project weeks		



Co-Researchers	2021_Self-Assessment: Survey filled-out interactively in the context of an online discussion guided by ZSI	Project Week Feedback On sticky notes, collected by UNIVIE	Interviews with co-researcher Conducted by UNSAM/FARN	
	Expectation Reflection Co-Researchers: Reflection with co-researchers undertaken during workshops	Project Week Outputs Calls for Action, flipcharts, photos		
	Follow-Up Feedback Co-Researchers Collected by UB	Actionbound Filled out by co-researchers		
Other	FrenaLaCurva Survey for participants			

