



Ruralities

**RURALITIES- CLIMATE SMART, ECOSYSTEM-ENHANCING AND
KNOWLEDGE-BASED RURAL EXPERTISE AND TRAINING CENTRES**

D2.7 – ‘RURALITIES CITIZEN SENSING’ ONLINE INTERFACE FOR MONITORING THE PROJECT PROGRESS AND IMPACT

Horizon Europe Grant agreement: 101060876

31/03/2025 by Sinisa Borota (IRI)
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TABLE OF CONTENTS

1.	INTRODUCTION.....	10
1.1	OBJECTIVES	10
1.2	STRUCTURE OF THE DOCUMENT	11
2	METHODOLOGY	12
3.	ONLINE INTERFACE.....	15
3.1	DEVELOPMENT	15
3.2	WEBSITE INTEGRATION	17
4.	DATA MANAGEMENT	19
5.	COMMUNICATION AND ENGAGEMENT	20
6.	CONCLUSION AND WAY FORWARD	21

LIST OF FIGURES

Figure 1 RURALITIES Citizen Sensing webpage 1	15
Figure 2 RURALITIES Citizen sensing webpage 2	16
Figure 3 RURALITIES Citizen sensing webpage 3	17
Figure 4 RURALITIES Citizen Sensing Journey Sequence	18
Figure 5 QR Code for the questionnaire access	20

ACRONYMS

Acronym	Description
AU	African Union
EC	European Commission
EID	Expected impact destination
EOT	Expected outcomes topic
EU	European Union
GDPR	General Data Protection Regulation
G-form	Google Form
HDM	Half Double Methodology
IMA	Impact Monitoring and Assessment
MICS	Measuring the Impact of Citizen Science
QR Code	Quick Response Code
RURALITIES	Climate smart, ecosystem-enhancing and knowledge-based rural expertise and training centres
RURNex	Rural Nexus
SIMSES	Simplified Socio-ecological Systems
URL	Uniform Resource Locator
WP	Work Package

ABSTRACT

The project 'Climate smart, ecosystem-enhancing and knowledge-based rural expertise and training centres' (RURALITIES) delivers an ecosystem-enhancing and climate action driven expertise and learning framework organized in hubs e.g., the '**RURALITIES**', comprising a series of innovative methodologies with the learner at its core, supported by a comprehensive network of living labs, and a blockchain-based digital platform combining the Internet and wireless technologies, to assist engage, connect and empower actors. This is done via a multi-point approach e.g., multi-actors, multi-disciplines, multi-systems, multi-scale, multi-sectors, and multilevel.

RURALITIES is rooted in the recruitment, preparation, training and coaching of 1.000+ facilitators for a variety of tasks (e.g., trainers, facilitators, role models, hub coordinators, etc.), and who play a significant role in creating the matrix and the platform upon which the learning framework is built, develops and evolves. **RURALITIES** proposes to ideate, implement, futureproof, validate and deliver the expertise and learning centers via real-scale practicing in 6 simplified rural socio-ecological systems (SIMSES) e.g., demonstrators, 2 in Italy, 1 in the United- Kingdom (UK), 1 in Slovenia, 1 in Spain and 1 in Romania. RURALITIES coordinates identified actions of local, and regional authorities in support of rural innovation in regions and economic sectors where rural innovators are not yet engaged in a relevant network.

RURALITIES coordinates identified SIMSES networks promoting rural innovation solutions whilst establishing innovative multipoint 'RURALITIES Hubs' of expertise and training on rural innovation. This is done via coordinating action for the managing authorities and regional bodies influencing regional and national policy instruments in Italy, the UK, Slovenia, Spain and Romania.

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33	BEN	CDM	LA CORTE DELLA MINIERA SRL	IT
34	BEN	DEX	DESARROLLO DE ESTRATEGIAS EXTERIORES SA	ES
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50	AP	ASPI	ASPIRE-IGEN GROUP LIMITED	UK
51	AP	EW	CONSERVATION EDUCATION AND RESEARCH TRUST	UK
52	BEN	APPO	APODISSI LTD	NG

1. INTRODUCTION

The current document, titled **D2.7 RURALITIES Citizen Sensing' online interface for monitoring the project progress and impact** has been elaborated within the framework of the RURALITIES project which is co-funded by the European Union's Horizon Europe Research and Innovation programme under Grant Agreement No. 101060876. UK participants in Horizon Europe Project RURALITIES are supported by UKRI grant numbers: 10051963 The Highlands and Islands Transport Partnership and 10050988 Earthwatch Europe.

Work Package 2 (WP2) ensures the effective implementation of the RURALITIES project's impact strategy, aimed at designing, piloting, and delivering sustainable solutions to foster rural prosperity. This is achieved by establishing expertise and training centres in rural innovation. WP2 leads the development of the project's impact action strategy, enabling the active production of deliverables, continuous improvement of project activities, and systematic adjustment based on feedback and performance evidence.

To this end, WP2 has introduced an innovative, cost-efficient Impact Monitoring and Assessment (IMA) method, informed by the Half Double Methodology (HDM), which is impact-driven and grounded in principles of human behaviour, unpredictability, and complexity. This approach ensures that the effectiveness of project actions is continuously monitored and adapted to foster meaningful change.

1.1 Objectives

Deliverable D2.7 is a key output under Task 2.3 (T2.3) – Co-create the Citizen Sensing system part of the project monitoring framework, forming an essential component of the project's broader impact monitoring framework.

This deliverable details the creation and deployment of the RURALITIES Citizen Sensing Online Interface. The interface is a digital platform that complements the RURALITIES Project Impact Sensing Handbook (D2.3), providing SIMSES leaders, facilitators, and rural communities with a participatory tool to collect, monitor, and assess impact data across environmental, economic, social, and societal dimensions – the Rural Nexus (RURNex).

The RURALITIES citizen sensing system consists of two interconnected components:

- Citizen Sensing Methodology – a participatory, community-led monitoring approach.
- Citizen Sensing Online Interface – a digital infrastructure to collect, analyse, and visualise data provided by rural communities.

Anchored in the Horizon Europe programme's expected outcomes and destination impacts, the citizen sensing framework has been designed for direct implementation across the project's 6 selected SIMSES and beyond for African Union (AU) based SIMSES followers. It ensures that locally relevant, place-based evidence feeds into the overall project impact evaluation. Furthermore, this framework serves as a reference for capacity-building activities carried out in WP7 and WP8.

The development of the RURALITIES Impact Sensing system, including the online interface, has been co-created through ongoing dialogue with SIMSES leaders and rural stakeholders. The iterative process was facilitated through the RURALITIES Biweekly SIMSES Calls and validated by key project partners, including EQUIP (WP2 leader), UPM (Task 2.4 leader), and Earthwatch, who provided thematic expertise and technical input.

D2.7 operationalizes tangible and measurable pathways to capture, analyse, and demonstrate project impact across all defined Expected Outcomes (EOT-1 to EOT-5) and Destination Impacts (EID-1 to EID-6).

Critically, the citizen sensing approach places rural communities at the centre of the monitoring process. It empowers them to express their observations, concerns, and insights, providing the consortium with real-time, local data that informs decision-making. This dynamic feedback loop not only supports the project's adaptive management but also facilitates early detection of emerging challenges, contributing to effective, community-informed responses and reinforcing the participatory ethos of RURALITIES.

1.2 Structure of the document

D2.7 presents the design and implementation of the RURALITIES Citizen Sensing Online Interface — a digital platform developed to complement and operationalise the RURALITIES Project Impact Sensing Handbook (D2.3). This document has been structured into five primary sections, each serving a distinct purpose and containing a unique set of information:

- **Chapter 1: Introduction:** present an initial overview of the context in which this report was crafted, along with its intended objectives.
- **Chapter 2: Methodology:** explains the methodological foundations of the citizen sensing approach in RURALITIES.
- **Chapter 3: Interface development:** describing the technical architecture and implementation process of the interface.
- **Chapter 4: Data management:** provides clarification on the data management procedures linked to the interface
- **Chapter 5: Communication and engagement:** outlines how the interface and the citizen sensing exercise will be introduced to the respondents.

2 METHODOLOGY

D2.7 introduces the "RURALITIES Citizen Sensing" online interface which is integrated within the official RURALITIES project website (<https://www.ruralities-project.eu/citizen-sensing/>). This online interface is designed to complement the Citizen Sensing methodology outlined in D2.3. It encourages a transparent and accessible way of monitoring and assessing the project's impacts across multiple domains.

The primary function of this online interface is to systematically present ongoing results derived from the MICS measurement which includes the participant-generated data collected via standardized questionnaires, as described in the D2.3 protocol.

There are 15 Citizen Sensing indicators derived from the MICS methodology.

Table 1 List of indicators

Number of the Indicator	Name of the Indicator	Description
1	Co-ownership	Participants' sense of shared responsibility, ownership, and identification with the project's goals and outcomes, reflecting meaningful engagement and empowerment.
2	Satisfaction with Participation	Participants' satisfaction with their involvement, including communication, facilitation, and the overall participatory experience, indicating how effectively the project engages its community.
3	Alignment with Participant Demands	The extent to which project objectives meet and match participants' personal and community expectations, needs, and demands, ensuring relevance and responsiveness.
4	Satisfaction with Project Results	Captures whether participants perceive the project outcomes as valuable, beneficial, and aligned with their initial expectations, assessing practical and perceived effectiveness.
5	Personal Behavioral Change	The extent to which participants have modified daily habits, routines, or consumption practices as a direct result of project participation, indicating practical behavioral outcomes.
6	Self-organization	Captures whether participants independently initiate or engage in additional activities beyond the original project plan, reflecting increased local initiative, autonomy, and sustainability of the project's impact.
7	Involvement in Similar Activities	The project's influence on motivating participants to engage in similar activities beyond the project's immediate boundaries, suggesting a sustained influence and extended community impact.

Number of the Indicator	Name of the Indicator	Description
8	Motivation	Project's effectiveness in boosting participants' enthusiasm, willingness, and motivation to continuously engage in the project's activities or other similar community-oriented initiatives.
9	Self-Efficacy	Participants' increased confidence and belief in their personal ability to effectively address local challenges or actively contribute to solving problems targeted by the project.
10	Acquisition of New Knowledge	Captures whether participants have gained new knowledge or insights through project involvement, directly measuring the project's educational and informational impacts.
11	Acquisition of New Skills	Development of practical and applicable skills among participants (e.g., technological skills such as using apps), demonstrating the project's capacity-building effectiveness.
12	Acquisition of New Competencies	The project's effectiveness in enhancing broader competencies like teamwork, creativity, and problem-solving among participants, essential for sustainable community-led development.
13	Political Involvement	Captures whether participants have become more actively involved in political processes or policy-related activities due to their engagement in the project, reflecting strengthened local governance and civic engagement.
14	Livelihood Improvement	The project's direct contribution to enhancing participants' livelihoods, such as improved economic status, employment opportunities, or income stability, indicating tangible economic impact.
15	Environmental Stewardship	Captures the extent to which participation in the project has led individuals to take greater personal responsibility and active engagement in protecting and caring for the natural environment, reflecting sustainable environmental impacts.

To ensure inclusive and accurate data collection, the RURALITIES Citizen Sensing interface will be supported by a comprehensive network of over 500+ trained facilitators identified and engaged through the T5.1. These facilitators play a critical role in assisting end-users, particularly participants who face digital literacy barriers, physical impairments, or any other challenges related to accessing, understanding, and completing the questionnaire. Facilitators ensure data collection is conducted consistently, ethically, and reliably, thus contributing to high-quality inputs for ongoing impact assessments. T2.3 will monitor the network of facilitators which support the RURALITIES Citizen Sensing framework throughout the project life cycle, that is, until the M60.

The interface also includes an internal monitoring component dedicated to tracking facilitator activities through presenting engagement levels, that is, the total number of involved participants who have participated in the RURALITIES Citizen Sensing framework. This will be updated after each grand MICS

measurement process, done by the project board. Furthermore, facilitators will have an open communication with the T2.3 partners through the SIMSES leaders and report any types of challenges encountered. Project managers can thus review facilitator performance and address any emerging issues promptly, ensuring consistency and effectiveness in support

Moreover, the RURALITIES Citizen Sensing page serves as an informational hub, providing a simple and concise description of the sensing methodology. Regular feedback collected through the interface from participants and facilitators alike will support ongoing methodological refinements, ensuring continuous improvement in the data collection and impact assessment process

The technical solution to integrate the RURALITIES Citizen Sensing online interface into the official RURALITIES project website was selected primarily to ensure visibility, accessibility, credibility, and a centralized mode of communication. Moreover, it facilitates easy and streamlined access for all involved parties—participants, facilitators, policymakers, and the broader public, thus it supports ongoing communication, promotes trust among stakeholders, and ensures effective dissemination and utilization of results throughout the project lifecycle. Furthermore, hosting the interface on the official website enhances legitimacy and transparency, signaling to participants and external stakeholders that citizen sensing is a core component of the project's methodology and showcases the project's interactive and iterative nature, which is in line with the systems thinking methodology (T6.1).

Another important element of RURALITIES Citizen Sensing is that it enables interactive feedback mechanisms through creating feedback loops between conducting RURALITIES activities, citizen sensing, MICS measurements, actionable recommendation, and implementation adjustments. This process will be enabled through multiple iterations throughout the project life cycle.

In summary, the framework is linking participants, facilitators, and project partners through a centralized online interface backed up by the Citizen Sensing protocol described in D2.3. By systematically presenting collected data, and ensuring facilitator support and monitoring, the interface encourages evidence-based decision-making and continuous improvement of impact creation throughout the project lifecycle.

3. ONLINE INTERFACE

3.1 Development

The Citizen Sensing webpage of the RURALITIES project (<https://www.ruralities-project.eu/citizen-sensing/>) is designed with a clear and user-friendly layout, ensuring that visitors can easily navigate and engage with the content. The landing page presents a clean and professional visual appearance, in line with the overall aesthetic of the RURALITIES website (Figure 2, 3 and 4).

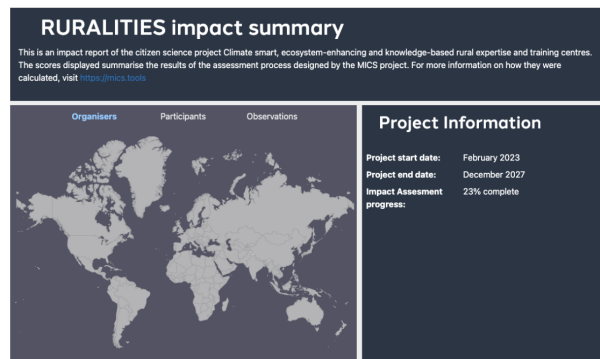


Figure 1 RURALITIES Citizen Sensing webpage 1

The page opens with a clear and concise introduction to the concept of Citizen Sensing, highlighting its central role in the project and the active involvement of rural communities in monitoring and evaluating the impacts of RURALITIES. This informative section is supported by well-structured paragraphs and high-quality visuals that capture the reader's attention without overwhelming them. The design prioritizes accessibility and inclusivity, reflecting the project's commitment to engaging diverse community groups, including youth, women, and marginalized populations. The page content is easy to read, and the information is logically organized, guiding users through the key elements of the Citizen Sensing initiative, its objectives, and its practical implementation.

Citizen Sensing

Citizen Sensing lies at the heart of RURALITIES, actively involving rural communities in monitoring and assessing project impacts. By empowering local citizens to collect and share valuable data, this approach ensures that community voices directly influence the ongoing development and refinement of project activities. Through Citizen Sensing, communities gain the opportunity to clearly express their experiences and observations, enabling the RURALITIES consortium to swiftly recognize emerging issues and respond effectively.



RURALITIES Impact Summary <https://mics.tools/>

Central to the Citizen Sensing initiative is inclusivity, actively promoting participation from diverse groups including women, youth, marginalized populations, and individuals facing literacy barriers. This broad-based involvement fosters a deeper, community-driven understanding of impacts and supports the creation of targeted, meaningful solutions—ultimately enhancing the project's positive outcomes and sustainability.



Figure 2 RURALITIES Citizen sensing webpage 2

Usability has been carefully considered, with intuitive navigation menus at the top of the page, allowing visitors to easily return to the main website sections or explore related project activities. The layout is responsive and mobile-friendly, ensuring a seamless browsing experience across different devices. Additional interactive elements, such as links to the MICS platform for further information and impact monitoring tools, enhance user engagement and encourage visitors to learn more about the project's methodologies and outcomes.

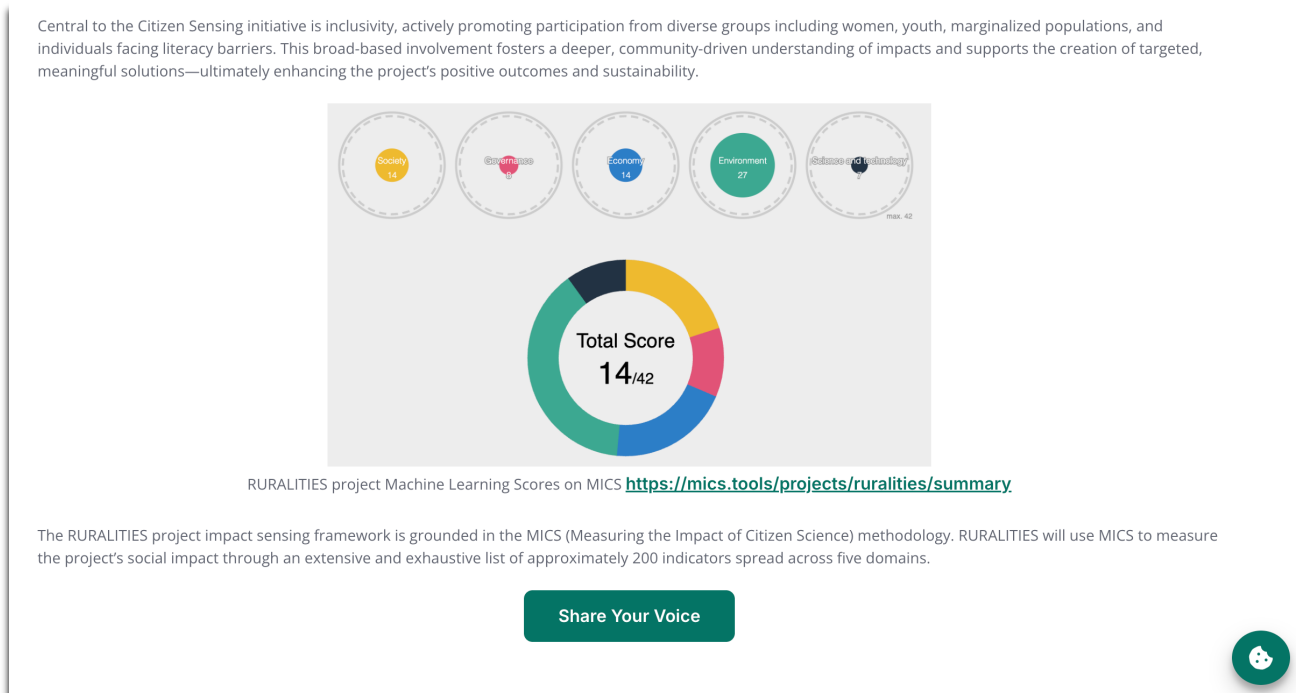


Figure 3 RURALITIES Citizen sensing webpage 3

Overall, the Citizen Sensing webpage successfully combines informative content, appealing visuals, and excellent usability, making it an effective communication tool for engaging stakeholders, citizens, and project partners.

3.2 Website integration

The questionnaire, prepared as part of Deliverable D2.3, consists of fifteen targeted questions designed to collect relevant information on rural community perspectives, local innovation initiatives, sustainability practices, and community challenges. The form's structure reflects the participatory approach of RURALITIES, with content co-designed in collaboration with SIMSES leaders to ensure it is clear, relevant, and easily understood by respondents.

The integration of the form within the project website has been carefully implemented to maintain consistency with the website's visual identity and to facilitate straightforward navigation. Participants can access the questionnaire directly from the Citizen Sensing landing page without being redirected to an external platform. Clear introductory text and instructions are provided to explain the purpose of the citizen sensing activity, the time commitment required, and how the collected data will be used in accordance with data protection regulations.

The questionnaire has also been tested across multiple devices to guarantee full functionality on desktop computers, tablets, and mobile phones, ensuring accessibility for rural participants with varying levels of digital access.

In addition to the embedded form, a direct link and QR code are available for dissemination purposes, enabling project partners and local stakeholders to share the questionnaire widely within their networks.

An editable template of the form has been made available to consortium members, allowing for future updates, localization, or replication in other contexts as needed.

The participant journey through the citizen sensing tool follows a clear and structured flow, beginning with an introduction and consent procedure. Respondents are then guided through the questionnaire itself, after which they receive a submission confirmation and information on the next steps. This structure ensures a transparent, ethical, and user-friendly process, supporting the active engagement of rural citizens in the project's participatory monitoring framework (Figure 4).

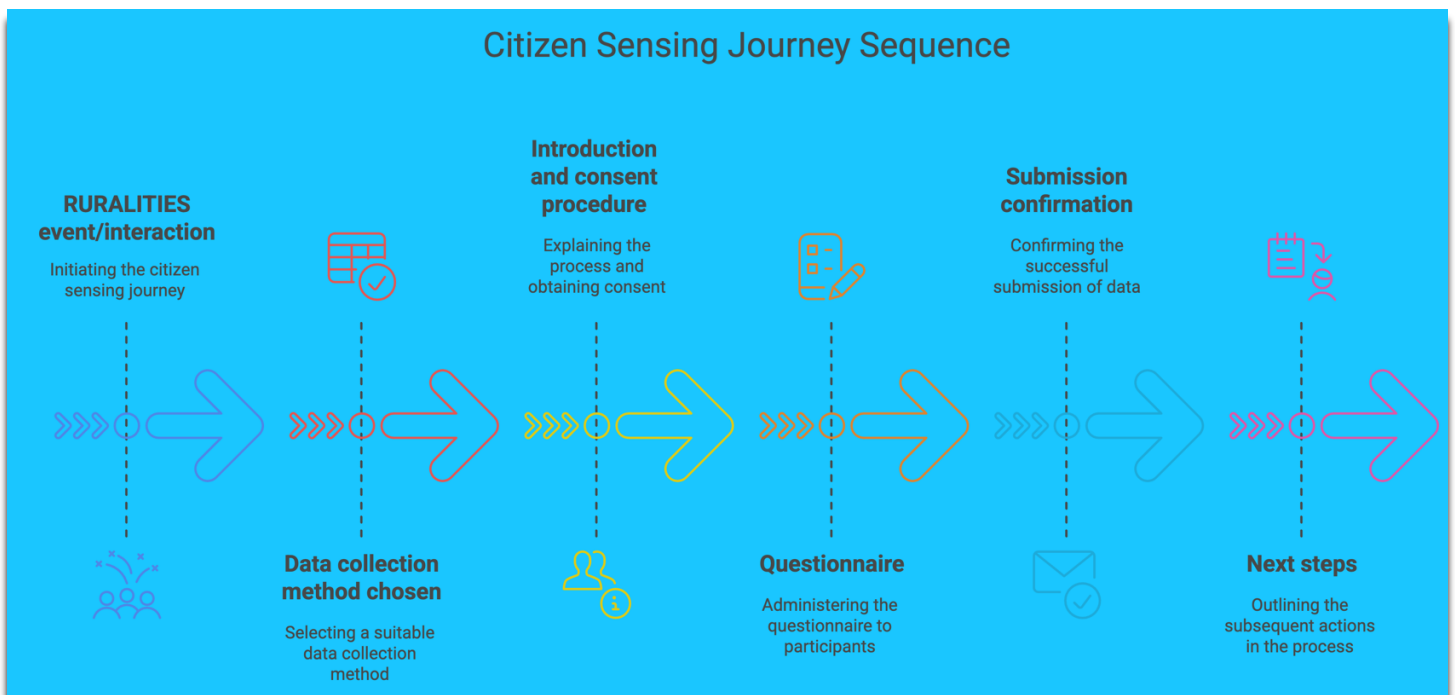


Figure 4 RURALITIES Citizen Sensing Journey Sequence

4. DATA MANAGEMENT

Data will be collected primarily through digital questionnaires using Google Forms, ensuring standardized data input. For participants facing literacy, digital, or physical accessibility challenges, trained facilitators will provide the needed support, as it is outlined in the "Protocol for Supporting Illiterate or Physically Impaired Participants".

SIMSES leaders are leading the dissemination of the Questionnaire to participants who participate in the RURALITIES activities and provide the necessary assistance.

The questionnaire is digitized through Google Forms with a unique URL. During RURALITIES activities, SIMSES leaders and facilitators can display the QR code as well on a screen or banner so participants can scan it with a smartphone or type the short link into their phone or any internet-connected device. They are taken directly to the G-Form.

Nonetheless, the SIMSES leaders and facilitators have the ability to assess the best data-gathering method and, if they deem necessary, print out the Questionnaire for participants to fill out and later input the results using Google Forms. They can print the QR code (and the short link) on flyers, posters, or handouts.

Collected data will be stored in the project's repository and will comply with General Data Protection Regulation (GDPR) guidelines. Regular backups will be performed to ensure data integrity and mitigate potential data loss. All data is anonymous to the data analyst to ensure participants' privacy and confidentiality. The possibility of linking responses to individual participants is not possible.

T2.3 leader will conduct regular monitoring and validation of data inputs and intervene in the process in case any errors or inconsistencies occur. In addition, SIMSES leaders and facilitators will be familiarized with good practices regarding accurate data collection.

Analysis will involve the aggregation of participant responses according to the "Majority Rule" outlined in the methodology section. Results will be used as input for the project-wide MICS measurement. All data management and analysis practices adhere to ethical guidelines, ensuring participant rights, dignity, and privacy.

5. COMMUNICATION AND ENGAGEMENT

To facilitate broad and effective participation in the RURALITIES Citizen Sensing activities, the project has digitized the citizen questionnaire using Google Forms, accessible via a dedicated and unique URL. This online format allows for easy access to the questionnaire from any internet-connected device. During project events and local activities, SIMSES leaders and facilitators will actively promote participation by displaying the corresponding QR code (Figure 5) visibly on presentation screens, printed materials, or event banners. This approach enables participants to simply scan the QR code with their smartphones or manually enter the short link into their device, ensuring a direct and user-friendly connection to the questionnaire.



Figure 5 QR Code for the questionnaire access

To maximize outreach and engagement, the integration of the digital form is complemented by practical communication efforts, such as on-site explanations and visual instructions, supporting participants who may be unfamiliar with digital tools.

Recognizing the importance of inclusivity and equitable engagement, the RURALITIES project has developed and applies a **Protocol for Supporting Inclusive and Equitable Participation** (outlined in project deliverable D2.3). This protocol guides SIMSES leaders and facilitators in providing additional support to participants who may face barriers to participation.

These measures are designed to foster a welcoming and accessible environment, ensuring that all community members—regardless of age, gender, background, or digital literacy—are empowered to contribute their views and observations. Through this multi-layered engagement strategy, RURALITIES promotes active citizen involvement and co-creation of knowledge in rural innovation processes.

6. CONCLUSION AND WAY FORWARD

The Citizen Sensing interface has been launched alongside the submission of this deliverable and will undergo continuous improvement throughout the implementation of the RURALITIES project. Its design and functionality will be progressively refined based on real user experiences and stakeholder feedback gathered during project activities.

A structured feedback mechanism has been established under the responsibility of the Task 2.3 and WP2 leaders. This process ensures that input from participants, facilitators, and partners is systematically collected and integrated into future iterations of the tool. Particular attention will be given to enhancing multilingual support and improving the overall accessibility of the interface, ensuring that it remains inclusive and user-friendly for all target groups.

The Citizen Sensing tool is a key component of the project's impact assessment strategy. By facilitating the collection of community-generated data, it will provide valuable insights into the effectiveness of RURALITIES activities and contribute to evidence-based decision-making. Ultimately, this participatory approach will support the continuous monitoring of project outcomes and foster a stronger connection between rural communities and the innovation processes promoted by the project.