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Data Descriptor

Self-Reported Data for Sustainable Development from People Living in Rural and Remote Areas

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Abstract: This paper describes a dataset for the Sustainable Development of remote and rural areas. Version 1.0 includes self-reported data, with a total of 212 valid responses collected in 2024 across different sectors (education, healthcare, and business) from people living in rural and remote areas in Saudi Arabia. The structured survey is understood to support research endeavors and policy making, looking at the peculiar characteristics of those regions. The 40 core questions, in addition to the detailed demographic questions, aim to capture different perspectives and perceptions on innovative and sustainable solutions. Overall, the dataset offers valuable strategic insights to be integrated with other sources of information, as well as the opportunity to incrementally generate extensive and diverse knowledge in the field. The major limitation is inherently related to the local context, as data comes from the most educated persons with access to digital resources. Additionally, the dataset may be considered as relatively small, and there is some gender imbalance due to cultural factors.

Dataset: https://doi.org/10.5281/zenodo.12750295.

Keywords: open data; rural regions; sustainable development; innovation management

Academic Editor: Michael Gerlich

Received: 2 October 2024
Revised: 5 January 2025
Accepted: 7 January 2025
Published: 8 January 2025

Citation: Alabdali, S.A.; Pileggi, S.F.; Bharathy, G. Self-Reported Data for Sustainable Development from People Living in Rural and Remote Areas. *Data* **2025**, *10*, 6. https://doi.org/10.3390/data10010006

1. Summary

In light of Sustainable Development [1], this paper provides a description of a dataset generated from data collected in remote and rural areas. Version 1.0 includes self-reported data from people living in rural and remote areas [2], with a total of 212 valid responses (out of 374 total answers) collected in 2024 in Saudi Arabia across three different sectors (education, healthcare, and business), representing the pillars of socio-economic sustainable development [3].

Often considered as the main pillars of sustainability [3], these sectors play a pivotal role in stimulating economy growth and social inclusion, as well as in enhancing quality of life and are, indeed, directly related to the Sustainable Development Goals (SDGs) [4]. Business is critical, looking holistically at socio-economic development with a focus on job creation and innovation in local businesses. It directly contributes to SDGs—Decent Work and Economic Growth. Healthcare is a foundation of social sustainability that directly correlates with the individual's well-being in local communities (SDGs—Good Health and Well-being). Education is essential for human capital development (SDGs—Quality Education) by enabling knowledge in socio-economic participation.

The structured survey aims to support research endeavors and policy making, in a context of fundamental lack of specific data [5]. It tries to capture peculiar characteristics by considering some demographics and basic geographic distributions of participants. The 40 core questions focus on the different perspectives and perceptions on innovative and sustainable solutions. The dataset is expected to offer valuable strategic insight that can be integrated with other sources of information, as well as the opportunity to increasingly generate extensive and diverse knowledge supporting this field.

Despite its relatively small size, we believe the dataset provides a value that need to be considered in context, looking at the integration of sustainable development efforts in emerging countries like Saudi Arabia, which consider the development of remote/rural areas like a strategic priority. This is part of the government-led Saudi Vision 2030 [6]. Such a development plan addresses innovative and sustainable solutions to foster holistic development. By emphasizing innovative sustainable solutions for remote and rural areas, the dataset is fully aligned with the strategy principles, namely a focus on economic diversity, technology development, and social inclusion. Moreover, the dataset explicitly addresses multiple sectors to provide a horizontal, yet structured, asset to policy for quality of life enhancement and accessibility to essential services.

The main goal when referring to remote/rural regions is to bridge, or at least to significantly reduce, the disparities gap between these areas and more developed ones. Furthermore, the dataset offers an opportunity to better frame and discuss the most critical aspects within a broader socio-economic context, seeking individual perceptions toward innovative solutions. Therefore, it is expected to contribute to the intense research in the field by providing insight to align and integrate the different strategic plans.

Despite such research and the associated socio-politic initiatives, properly understanding actual needs and challenges means considering an intrinsic complexity. We believe that an open-data approach may foster a more systematic and effective process. Last but not least, there is a concrete opportunity for re-usability to address similar issues in other countries, focusing on commonalities and peculiarities.

On the other side, the major limitation is inherently related to the local context, as data comes from the relatively educated or digitally savvy responders with access to digital resources (in the rural context), where less educated (or digitally savvy) are not represented. To report also a relatively small size, yet valuable in the specific context,and some gender imbalance due to cultural factors.

Structure of the Paper

The paper is structured as follows: Section 2 deals with the methodological aspects; Section 3 provides a description of the dataset, including factors and core questions; Section 4 presents some statistics, while Section 5 addresses principles and issues encountered during the data collection process; and finally, Section 6 focuses on critical discussion.

2. Methodology and Approach

This section details the survey design process and data collection methods used to capture data from rural communities. Given that this is a data descriptor paper, theoretical and analytical frameworks are outside the scope of this study.

The provided dataset [2] is based on self-reported data collected from people living in rural and remote areas of Saudi Arabia in 2024. Figure 1 summarizes the different stages.

The survey has been designed after a scoping literature review study [5] aimed at identifying critical factors and related gaps. These factors are structured in three major building blocks (Organization, Technology, and Environment) and result from a critical analysis aimed at a prioritization in context. Factors were selected from relevant theories in the area

of Information Systems, considering SDGs from the socio-technical perspective [7,8]. In order to consolidate the existing body of knowledge into a conceptual framework, multiple theories have been considered: Technology Acceptance Model (TAM) to address user perception in a socio-technical context [9], Diffusion of Innovation (DOI) [10] to explicitly incorporate relative advantage in complex systems, and Technology–Organization–Environment (TOE) [11] to deal with the gap between social needs and technical capabilities.

The questionnaire was designed accordingly, assuming the factors as a key driver. The process has also allowed for the identification of a set of concerning open issues [12]. Consequently, 40 core questions were developed along ten consolidated factors [12]. A pilot study on a small scale was conducted to foster data quality. Variables are assessed in the range 1–5, where 1 indicates corresponds to less relevant, while 5 is associated with the highest relevance.

In order to ensure that all participants are representative of the target population, namely people living in remote/rural regions of Saudi Arabia, the following exclusion criteria have been applied:

- People not living in Saudi Arabia;
- People living in a major city;
- Equivalently, people living in a residential area with more than 5000 inhabitants, which is considered to be a major city in Saudi Arabia.

According to these criteria, 212 valid responses were collected out of the 374.

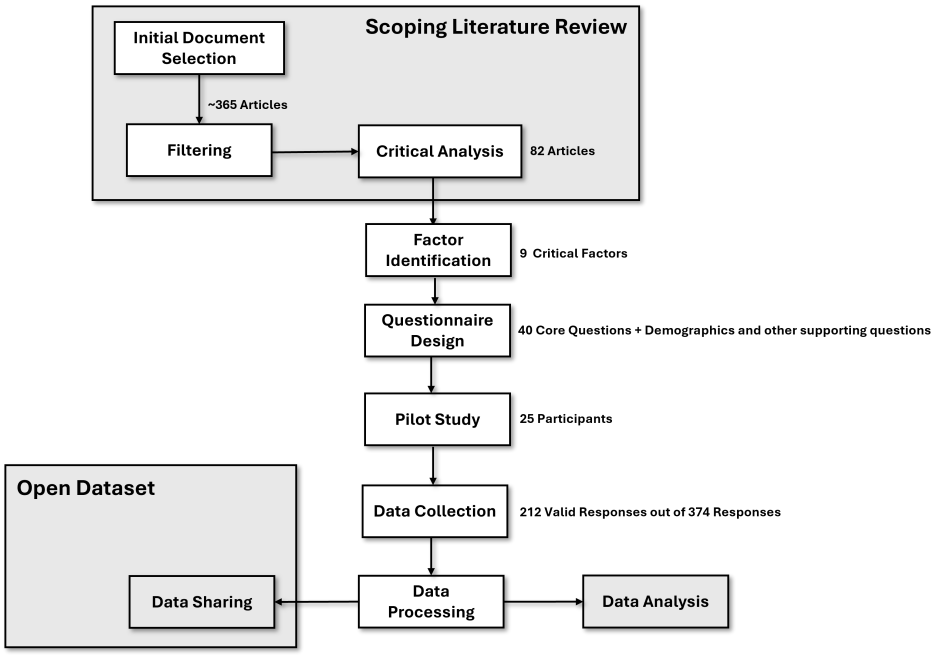

Figure 1. Design methodology.

3. Data Description

This section describes the dataset structure, including main factors and survey questions. The underlying factors have been identified by considering multiple theories in the Information Systems domain, looking at the adoption of innovative solutions [12]. These factors were selected based on their direct contribution to the context of sustainable development, reflecting critical aspects of the respondents' experiences and able to provide a structured approach when capturing participants' responses. A definition for each factor is reported in Table 1.

Table 1. Factor definitions.

Factor	Operational Definition
Management Support	The active engagement of organizational leadership to adopt new innovative solutions by providing the required resources [13].
Financial Resources	Funds that the organization needs to achieve its objectives by financing new innovative solutions for its business [14].
Human Expertise and Skills	The required knowledge and skills for effective task performance by using technology at the individual and organizational levels [15].
Relative Advantage	Overall progress or improvement that looking at existing practices to be modified or replaced by adopting new innovative solutions [16].
Usefulness/Easy-to-use	Intuitive concepts related to people's perception of the significance of technology and its ease of use within a potential complex process [17,18].
IT Infrastructure	Possession and utilization of IT at the organizational level, including software, hardware, and networks to enable technology operations [19].
Policy-Strategy	A set of policies and regulations must be followed to mitigate potential risks that may cause barriers to technology diffusion [20].
Socio-Economic Context	A context that describes the overall well-being level and economic situation, which determines the level of technology use [21].
Socio-Cultural Perspective	A perspective that understands the influence of people's behavior and local culture on their perception of adopting new technology [22].
Sustainable Development	A development that satisfies current needs over time without jeopardizing the future generation's capabilities [23].

The dataset has been structured accordingly as questions are associated with the identified factor to support consistent data analysis. It consists of two main parts, addressing the demographics and geographic distribution (Table 2) and the core questions (Table 3), respectively. The demographics and the geographic distribution information are crucial in this case to assure valid answers, meaning participants effectively living in remote/rural areas, to characterize those areas, as well as the participants.

Table 2. Demographics and Geographic Distribution.

Factors	Question
Personal Information	• What is your Gender? • What is your group of age?
Geographic information	• In which country do you live? • How many people approximately live in your place of residence? • How far is your place of residence from a major city? • Would you classify your residence place as: Major City/Mountain/Island/Desert/Farm/Remote Area/Other
Professional Profile	• Are you working? • Are you studying? • Are you working in the educational sector? If yes, please specify your job/role. • Are you working in the healthcare sector? If yes, please specify your job/role. • Do you own a private business? • Are you an employee in a company? • Are you an IT professional? • Are you a manager in a company?

Table 3. Core Questions.

Factor	Question Code	Core Question
Management Support	*MS_1*	Is your organization/educational setting interested in adopting innovative solutions?
Management Support	*MS_2*	How would you rate the effort to integrate new technology in your organization/educational setting?
Management Support	*MS_3*	Your organization/educational setting communicates with you to clarify the purpose of new technology?
Management Support	*MS_4*	Your organization/educational setting provides training to understand how technology can improve the performance.
Financial Resources	*FR_1*	Can allocated resources support new technology adoption in your organization/educational setting?
Financial Resources	*FR_2*	How do you perceive the financial capability of the organization/educational setting to meet the evolving requirements for new technology?
Financial Resources	*FR_3*	How would you rate the quality of the IT infrastructure in your workplace/educational setting?
Human Expertise and Skills	*HES_1*	How relevant is technology in your profession/learning?
Human Expertise and Skills	*HES_2*	How would you rate your skills in technology that are relevant to your job/study?
Human Expertise and Skills	*HES_3*	Do you perceive you need additional skills to properly use modern technology?
Human Expertise and Skills	*HES_4*	In your workplace or educational setting, you can find specific staff to solve technical issues.
Relative Advantage	*RA_1*	Do you believe the adoption of new technology will add value to your organization/educational setting?
Relative Advantage	*RA_2*	Do you think a better technology will add value to improve current practices in your organization/educational setting?
Relative Advantage	*RA_3*	Do you believe new technology will increase the performance/productivity of your organization/educational setting?
Usefulness/Easy-to-use	*U/EU_1*	Do you perceive technology contributing to a better professional career/education/life?
Usefulness/Easy-to-use	*U/EU_2*	Do you think using technology will offer more flexibility to accomplish your goals?
Usefulness/Easy-to-use	*U/EU_3*	How would you rate the difficulties you face using technology?
Usefulness/Easy-to-use	*U/EU_4*	The IT infrastructure is resilient enough to facilitate the completion of tasks within your organization/educational setting?
IT Infrastructure	*ITI_1*	The IT infrastructure is resilient enough to facilitate the completion of tasks within your organization/educational setting?
IT Infrastructure	*ITI_2*	In your workplace, you have access to the necessary equipment, including hardware, software and networks.
IT Infrastructure	*ITI_3*	Is the current IT infrastructure being capable to accommodate new technology in your organization/educational setting?
Policy-Strategy	*PS_1*	Do you consider the current policy/strategy to develop your local area to be effective?
Policy-Strategy	*PS_2*	How do you perceive current policies/strategies to align with the current rural needs and challenges?
Policy-Strategy	*PS_3*	How do you perceive policies to develop local infrastructure (transport)?
Policy-Strategy	*PS_4*	How do you perceive policies to foster business investment in your area?
Policy-Strategy	*PS_5*	How would you rate the policies to develop human capital in your area?
Policy-Strategy	*PS_6*	How would you rate efforts to improve IT infrastructure in your area?

Table 3. *Cont.*

Factor	Question Code	Core Question
Socio-Economic Context	*SEC_1*	How relevant is technology in your personal life?
Socio-Economic Context	*SEC_2*	Can your income level influence your access to technology?
Socio-Economic Context	*SEC_3*	Do you perceive your educational level to be appropriate to achieve your life goals?
Socio-Economic Context	*SEC_4*	Do you consider technology useful to enhance your local community performance?
Socio-Cultural Perspective	*SCP_1*	Do you perceive that your gender influences your access to technology and services?
Socio-Cultural Perspective	*SCP_2*	Do you expect technology to change traditional aspects of life?
Socio-Cultural Perspective	*SCP_3*	Do you believe technology can enhance your quality of life?
Sustainable Development	*SD_1*	How would you rate policies/strategies to enhance business sustainable growth in your local area?
Sustainable Development	*SD_2*	How would you rate the access to public services in your local area?
Sustainable Development	*SD_3*	Is access to e-services supported in your local areas?
Sustainable Development	*SD_4*	Do you think services provided in your local area have the same level as in other areas in your country?
Sustainable Development	*SD_5*	Do you believe your community requires additional or enhanced services?
Sustainable Development	*SD_6*	Would you like to keep living in your local area?

4. Main Statistics

This section proposes a descriptive analysis of the dataset in terms of main statistics. First, the demographics and the geographic distribution of participants are presented; then, an overview of core questions is provided, looking at different metrics.

Main demographics (gender and age) are reported in Figures 2 and 3. Concerning the gender distribution, there is a significant imbalance, as 71.6% (152) of the participants are male, while 22.6% (48) are female, 3.3% (7) preferred not to answer, the 2.3% (5) classified themselves as "other". The distribution in terms of age is more balanced, as 36% (75) of the participants are aged between 18 and 25, 31% (65) between 26 and 33 years, 23% (50) between 34 and 40, while 10% (22) are participants 40+.

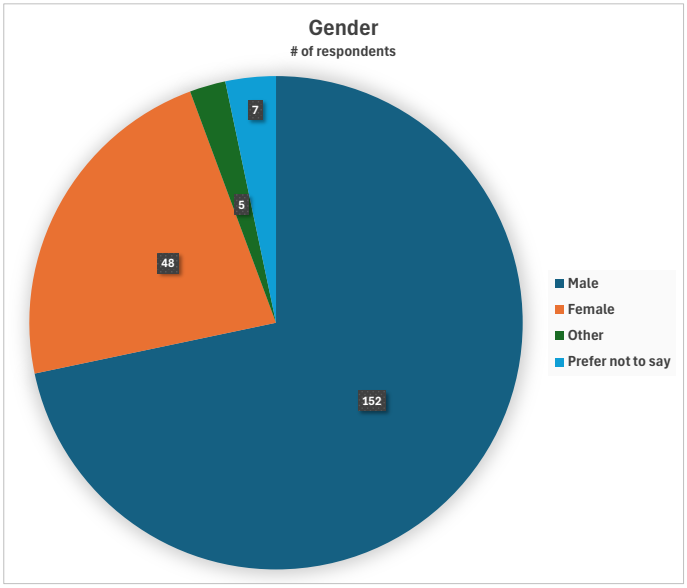

Figure 2. Gender distribution. The dataset collected presents a significant gender imbalance, with 71.6% male respondents.

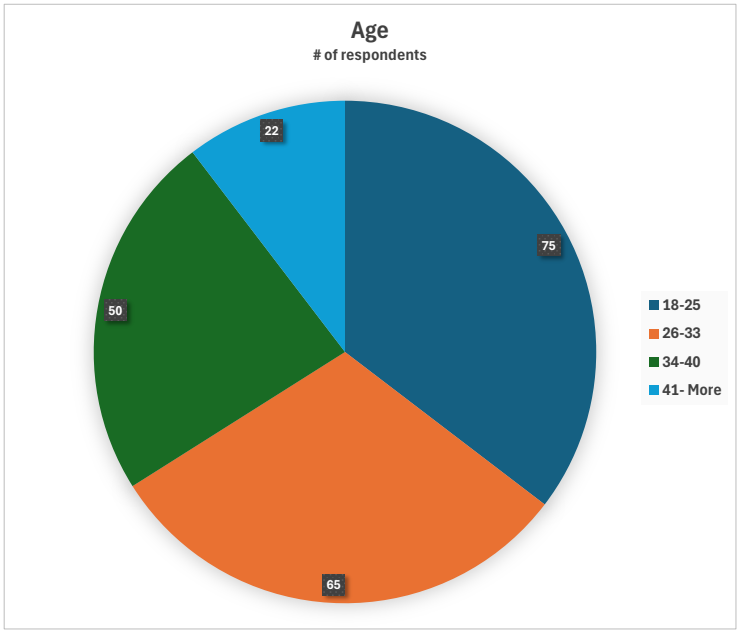

Figure 3. Age distribution. The majority of participants belongs to the youngest age group (18–33).

From an occupational point of view, 63.67% (135) of the participants are students, while 36.32% (77) are working in various sectors, including education, healthcare, and business (as shown in Figure 4).

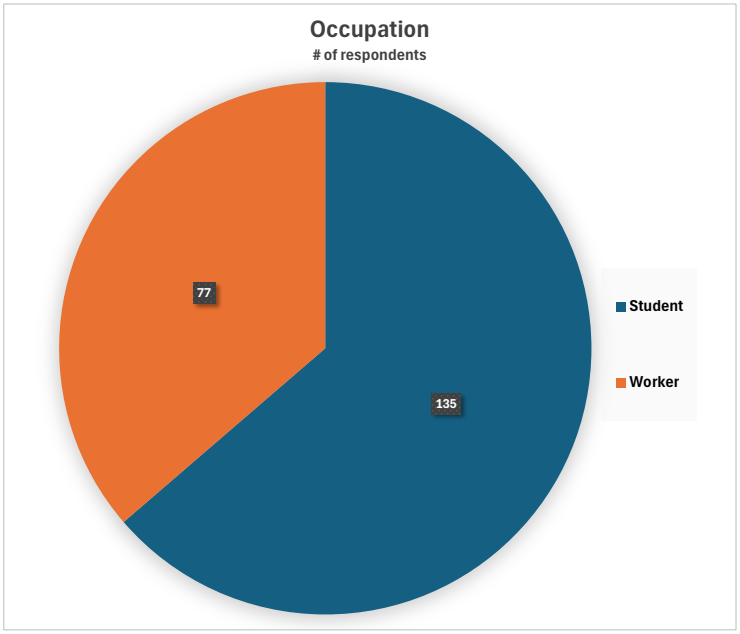

Figure 4. Occupation.

The jobs distribution across the three major sectors is proposed in Figure 5. In the educational sector, 15.3% (14) of respondents are teachers, 6.5% (6) IT professionals, and 3.2% (3) managers. In the healthcare sector, health practitioners represent 20.8% (19), IT professionals 4.3% (4) and managers 5.4% (5). Of those employed in the business sector, 12% (11) are working as employees in companies, 5.4% (5) are IT professionals, 3.2% (3) are managers, and 7.6% (7) are business owners.

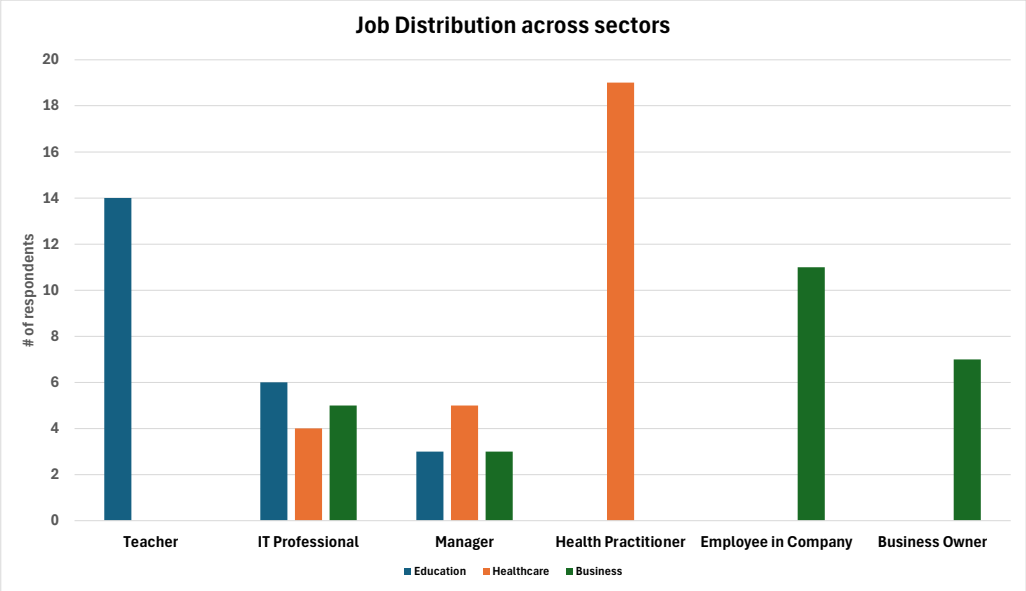

Figure 5. Job distribution across sectors. While presenting a relatively limited diversity, few key sectors are represented.

A total of 40.7% (86) of respondents live in a community of a size 1001–2500 residents, 27.8% (59) live in areas with 201–1000 residents, 19.8% (42) with 2501–4999 residents, while 11.7% (25) live in areas with an estimated population of less than 200 inhabitants. Statistics are reported in Figure 6.

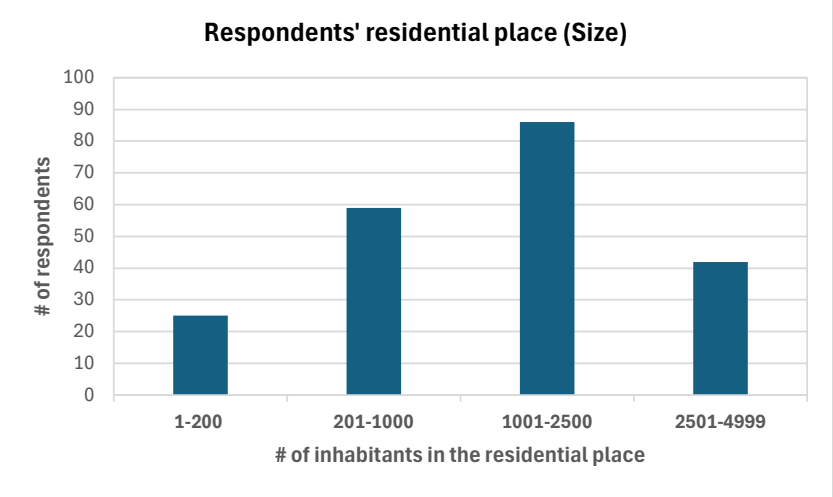

Figure 6. Size of the respondents' residential place.

In total, 30.4% (67) of respondents live at a distance from a major city between 51 km and 100 km, 27.6% (59) between 101 km and 150 km, 17.3% (37) between 10 km and 50 km, 16.5% (36) between 151 km to 200 km, and 8.2% (13) at a distance of more than 200 km. A summary is reported in Figure 7.

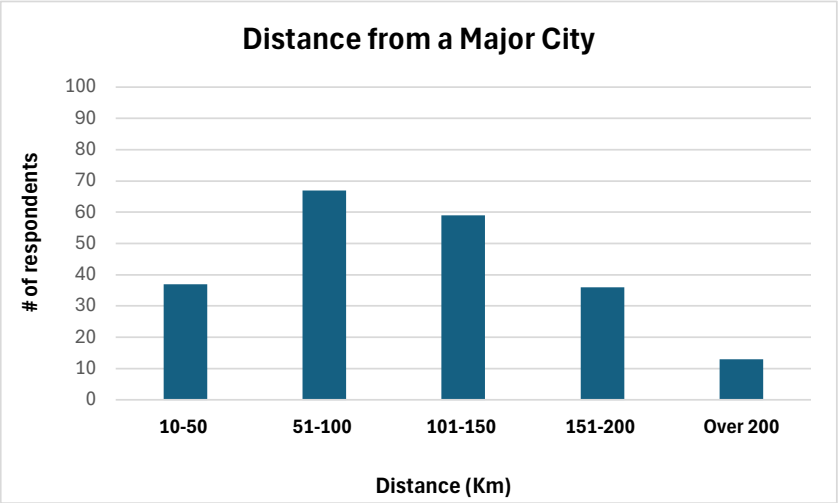

Figure 7. Distance of respondents' residential place from a major city.

Figure 8 shows a characterization of such residential places. A total of 27.35% (58) of participants consider their residential areas as a remote area, 21.69% (46) a mountain, 15.09% (32) a farm, 8.49% (18) a desert, and 6.60% (14) an island. Note that 20.78% (44) of respondents have generically answered "other".

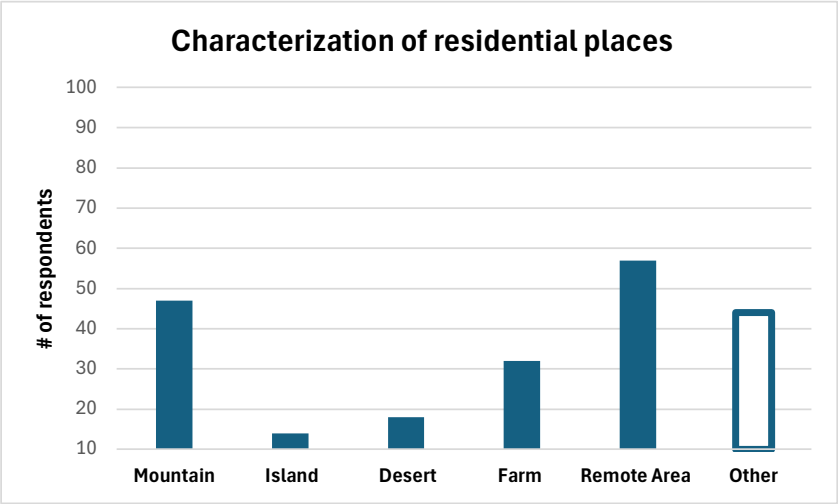

Figure 8. Characterization of respondents' residential place. Any setting presents unique living conditions and a potential variety of perceptions.

Core questions are statistically described by considering classic metrics (Table 4): *Mean*, *Standard Deviation*, *Kurtosis*, and *Skewness*. In summary, there is a clearly positive perception of some factors, such as Socio-Economic Situation and IT Infrastructure, which are characterized by a high value of the mean. Moreover, a lower variability indicates a fundamental consensus among respondents. In contrast, other factors, such as Human Expertise and Skills, and Socio-Cultural Perspectives, show a lower means and positive skewness, which reflects some kind of disagreement or dissatisfaction. Finally, factors like Sustainable Development and Relative Advantage reveal moderate scores and variability, reflecting diversity; however, in general terms, they may be considered to be positive looking specifically at the local context. Overall, these generic trends indicate an opportunity to developing potential in response to the current challenges.

Table 4. Main statistics for core questions.

Question Code	Mean	Standard Deviation	Kurtosis	Skewness
MS_1	3.274	1.046	−0.271	−0.294
MS_2	3.491	1.088	−0.231	−0.407
MS_3	3.184	1.136	−0.599	−0.348
MS_4	3.302	1.043	−0.396	−0.204
FR_1	3.462	0.913	0.094	−0.599
FR_2	3.533	0.973	0.129	−0.588
FR_3	3.557	1.091	−0.186	−0.673
HES_1	2.660	1.132	−0.660	0.541
HES_2	2.193	1.093	−0.566	0.571
HES_3	2.241	1.030	−0.224	0.626
HES_4	2.434	0.976	−0.382	0.417
RA_1	3.019	1.165	−0.808	−0.091
RA_2	3.052	1.146	−0.849	0.106
RA_3	3.033	1.109	−0.435	−0.149
U/EU_1	3.335	0.993	−0.216	−0.219
U/EU_2	3.613	0.790	−0.562	0.171
U/EU_3	3.495	0.871	0.729	−0.330
U/EU_4	3.425	0.966	−0.024	−0.338
ITI_1	3.920	0.823	−0.456	−0.361
ITI_2	3.920	0.931	−0.455	−0.511
ITI_3	3.901	0.792	−0.385	−0.165
PS_1	3.774	1.003	−0.782	−0.296
PS_2	3.618	0.976	−0.728	−0.120
PS_3	3.759	0.992	−0.344	−0.435
PS_4	3.741	1.043	0.075	−0.718
PS_5	3.679	1.060	−0.252	−0.502
PS_6	3.538	1.171	−0.493	−0.526
SEC_1	4.080	0.915	−0.748	−0.569
SEC_2	4.057	0.861	−0.952	−0.377
SEC_3	3.995	0.866	−0.757	−0.298
SEC_4	4.354	0.760	0.239	−0.956
SCP_1	2.547	1.202	−0.817	0.241
SCP_2	2.717	1.491	−1.536	0.056
SCP_3	2.731	1.463	−1.413	0.156
SD_1	3.792	0.876	−0.154	−0.344
SD_2	3.811	0.886	−0.331	−0.398
SD_3	3.623	1.081	−0.231	−0.534
SD_4	3.542	1.074	−0.330	−0.387
SD_5	3.962	0.889	−0.532	−0.412
SD_6	4.071	0.841	−0.822	−0.327

Overall, although with the limitations discussed later on in the paper, the statistics reflect the target environment's characteristics by describing these areas, even with minimum representation. Therefore, the dataset fundamentally contributes to research, by providing insight on the inherent complexity from multiple lenses, including especially a socio-economic and technical perspective.

5. Open Data and Data Quality

The application of the Findable, Accessible, Interoperable, and Reusable (FAIR) data principles [24], which have garnered attention in recent years, are a critical component to

data management, as well as the research process in general. They promote reproducible research through data sharing, transparency, interoperability and reuse. In this context, we put our dataset through Australian Research Data Commons' FAIR assessment [25].

Our dataset demonstrates adherence to *Findability* and *Accessibility* principles in FAIR. The use of Zenodo (https://zenodo.org (accessed on 6 January 2025)) as a repository ensures that the data has a persistent identifier, rich metadata, and is easily accessible. In terms of *Interoperability*, while the dataset uses a standard format (CSV), there is room for improvement in the use of standardized vocabularies specific to sustainable development research. This could enhance the dataset's integration with other research in the field. For *Reusability*, the dataset is well supported by comprehensive metadata and this descriptive paper. The purpose behind publishing the dataset has been to support open science and reusability. There is potential for improvement in terms of aligning with domain-specific standards for rural data in sustainable development data.

While FAIR assessment seems straightforward and identifies two areas, namely integration of ontologies and controlled vocabularies to enhance interoperability and aligning more closely with domain-specific standards, in general terms, practical challenges persist in their implementation.

In addition to the FAIR principles, the CARE principles emphasize the importance of ethical considerations in data governance, particularly concerning indigenous and local populations. The CARE framework highlights the need for collective benefit, authority to control data, responsibility, and ethical considerations in data management [26]. In the context of this Saudi Arabian rural data, we are neither targeting any specific indigenous groups nor a local population. The data are rolled up at aggregate levels such as age bins to avoid any possibility of near identification. We stand with Carroll et al. in supporting CARE principles that the data collected from rural communities is used to benefit those communities, rather than being exploited for external interests [26].

At this stage, one of the requirements for both enhancing FAIR and CARE is to develop of a community of research groups that can contribute to, use, and collect similar datasets. This would also enable one to link the data to other datasets. This approach ensures comprehensive and comparative studies, respects community rights and cultural contexts, encourages collaboration between researchers, policymakers, and local communities, and increases the value of the dataset for future research. From FAIR data perspective, we support taking a community-based approach to adopting standardized vocabularies for sustainable rural development research to enhance interoperability, exploring ways to link this dataset with other relevant datasets in the field, and aligning more closely with domain-specific standards for sustainable development data. These improvements would further increase the dataset's value and usability for the research community, potentially leading to more impactful sustainable development initiatives in rural and remote areas. The application of FAIR and CARE principles to a dataset would support data quality, usability, ethical considerations, collaboration opportunities, long-term value, and trust building.

The dataset contains some minor data issues, as a small number of valid answers (6 out of 212) present an inconsistent answer related to occupation—i.e., participants declare not to be working, but to have an occupation in some sector. There are multiple possible interpretations (for instance people looking for job or working in multiple casual employments). The local understanding of the terminology could be a factor.

6. Exploitation and Limitations

This section provides a brief discussion of the possible exploitations of the dataset in a context of public policy considering its major limitations.

6.1. Recommendations for Public Policy

The paper aims to describe the dataset with a focus on its potential research value, and does not provide in-depth analysis of the relationships among factors. However, in terms of public policy, several generic recommendations may be inferred by the self-reported data as follows:

- Increase investment in digital infrastructure to enable equitable access to digital access. This is fully aligned with SDGs (industry, innovation, and infrastructure).
- Introduce/enhance digital literacy programs considering marginalized groups, also in line with SDGs (reduce inequality within and among countries).
- Invest in digital solutions (such as T-health, E-learning and E-government) to reduce the gap with urban areas.
- Foster economic growth by developing small businesses.
- Increase employment rate with a focus on critical and strategic skills.

Additionally, a relatively deep understanding of the local environment (Figures 6–8) may enable a more focused analysis to effectively address the unique challenges to access resources, infrastructure, or digital tools (e.g., [27]), as well as actual opportunities and socio-economic disparity [28].

6.2. Limitations

While the dataset offers valuable insights into rural sustainable development, it is important to acknowledge the limitations that affect its interpretation and generalizability from both methodological constraints and the specific context of data collection.

The dataset refers to a complex reality characterized by unique features. Such peculiarities inherently set a number of challenges to establish consistent and comprehensive data.

In this specific case, major limitations have been identified as follows:

- *Relatively small number of participants*. With a total of 212 valid responses, the size of the dataset is definitely to be considered as small. However, given the low population density and, in more general terms, limited access to digital resources [29,30], the data are likely to provide value in context.
- *Socio-economic complexity*. Several key sectors have been approached. However, they do not necessarily reflect holistically and comprehensively the socio-economic complexity of remote/rural areas, which my present a much more significant diversity.
- *Imbalance in gender*. The distribution shows a significant gender imbalance, with a predominance of male respondents (71.6%). This disparity may reflect cultural factors and social norms related to the context in which the data comes from. These perspectives have been extensively discussed in the literature (e.g., in [31]).
- *Imbalance in age*. The age distribution indicates that the majority of respondents are young people (between 18 and 33 years old). This concentration on one group may skew capturing the whole spectrum for different groups' perceptions. Young people typically have positive attitudes towards technology and digital resources, as well as they are more likely to have the appropriate skills to use them [32].
- *Limited diversity*. Participants are mostly students or professional in key sectors: education as a key sector for developing human and professional capabilities to enable a sustainable future, healthcare as a pillar to ensure the well-being of people, and business to drive drive socio-economic growth. This intrinsically suggests that respondents come from the most educated part of local communities with access to digital resources. Unfortunately, other groups are evidently not represented.

These limitations intrinsically result in a potential bias. However, we believe that is acceptable in this specific case, given the peculiarities of target environment. Overall, it

does not significantly affect the capability of re-use and of integration with equivalent data from different developing countries, which may present similar challenges but a different local socio-cultural context.

On the other side, as previously mentioned, this specific version of the dataset refers to one country only with a limited sample size and some issues in terms of veracity. It results in an objective impossibility to generalize findings that, in general terms, do not reflect an exhaustive representation of the different groups and perspectives, as well as of the underlying socio-economic complexity.

The identified limitations could be mitigated as follows:

- Adopting digital and non-digital collection methods to obtain data also from people with limited access to digital tools.
- Explicitly targeting under-represented groups.
- Involving community leaders and local organizations to increase engagement.
- Integrating the dataset with qualitative data.
- Finally, while analyzing three key sectors allowed to gain insight, such a simplification presents some limitations in capturing the socio-economic complexity. Therefore, future research could conceptually evolve to include a more specific view of sectors, including for instance agriculture and energy.

7. Conclusions

This paper described a dataset for sustainable development of remote and rural areas. Version 1.0 includes self-reported data from people living in local communities, with a total of 212 valid responses (out of 347) collected in 2024 in Saudi Arabia. The structured survey is understood to support research endeavors and policy-making, looking at the peculiar characteristics of remote/rural regions. It consists of 40 core questions, in addition to the detailed demographic questions, aimed at capturing different perspectives and perceptions on innovative and sustainable solutions. Overall, the dataset is expected to offer valuable strategic insight to be integrated with other sources of information, as well as the opportunity to generate extensive and diverse knowledge in the field incrementally. The major limitations are inherently related to the context, as data comes from the most educated persons with access to digital resources. Additionally, the dataset may be considered relatively small, and there is some gender imbalance due to cultural factors.

Author Contributions: Conceptualization, S.F.P., G.B. and S.A.A.; methodology, S.F.P., G.B. and S.A.A.; data curation, S.A.A.; writing—original draft preparation, S.A.A.; formal analysis, S.A.A.; writing—review and editing, S.F.P. and G.B.; supervision, S.F.P. All authors have read and agreed to the published version of the manuscript.

Funding: This research received no external funding.

Institutional Review Board Statement: The data collection for this paper has been approved by the University of Technology Sydney (UTS HREC REF NO. ETH24-9191).

Informed Consent Statement: Informed consent was obtained from all subjects involved in the study.

Data Availability Statement: The dataset is publicly available [2]: https://doi.org/10.5281/zenodo.12750295 (accessed on 6 January 2025).

Acknowledgments: The authors would like to acknowledge the constructive feedback provided by the anonymous reviewers, as well as the final suggestions from the Academic Editor.

Conflicts of Interest: The authors declare no conflicts of interest.

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