



TRANSCEND

Deliverable 7.2: ETHICS MANAGEMENT PLAN

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Deliverable 7.2 – Ethics Management Plan

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Executive summary

This deliverable describes the ethical management plan of the project. It outlines the guidelines and procedures to ensure ethical standards and integrity throughout the project. It includes a comprehensive ethical evaluation to ensure compliance with legal frameworks and enhance the overall quality of the research. The plan provides guidelines for ethical decision-making, research ethics, and accountability in data management during the project's lifetime, as well as for the design and implementation of pathways to outcomes and impacts in the medium to longer term; and establishes governance bodies to monitor and where necessary revise the General Data Protection Regulation (GDPR). It presents the scope and instruments adopted for an ethical management of the process in both online and in person communication, including scientific publishing and policy communication and stakeholder engagement through training, workshops, and serious games. Overall, the Ethics Management Plan guides the TRANSCEND project in upholding ethical principles, complying with legal requirements, and ensuring the highest standards of research integrity. It aims to protect participant rights, advance knowledge ethically and responsibly, and contribute to addressing water scarcity and climate change through ethical research practices.

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1. Introduction and Purpose

1.1. Overview of TRANSCEND projects and its objectives

Globally, the management of water resources faces increasing challenges due to water scarcity and climate change. These challenges can lead to other ecological and socioeconomic threats, such as pests and commodity price fluctuations, creating a complex interconnected system. Traditional decision-making methods and policies need to be revised to address the uncertainties associated with planning for the future in this context.

The objective of the TRANSCEND project is to identify and promote the adoption of Transformational Adaptation Policies (TAP) for water scarcity. These policies aim to develop innovative allocation systems and economic instruments that can effectively adapt to uncertainty and change, while achieving equitable and sustainable economic growth and welfare outcomes.

To achieve this objective, TRANSCEND will create an innovative ecosystem consisting of three key components:

- A knowledge network will facilitate stakeholder engagement and knowledge sharing.
- An actionable modelling suite will integrate interdisciplinary socio-ecological science and ensemble forecasting to guide the design of TAP.
- An accounting and monitoring toolbox will support implementing and enforcing TAP in practice.

TRANSCEND will apply this ecosystem of innovation to design and implement TAP in seven living labs located in areas experiencing growing water scarcity. These living labs include river basins in Spain, Italy, Greece, Slovakia, Peru, Chile, Bolivia, Lebanon, Syria, Turkey, and the Indian states of Chhattisgarh and Odisha.

In addition to the living labs, TRANSCEND aims to expand its impact through eight or more inspiration labs. It plans to train over 160 transformation agents on project methods and integrate uncertainty analysis into key national and European Green Deal strategies. The knowledge and tools developed through the project will catalyze robust and systemic transformations in addressing water scarcity and climate change, both in Europe and globally.

The ultimate goal of TRANSCEND is to foster the adoption of the ecosystem of innovation and TAP in over 100 basins worldwide by 2030, contributing to the mission of climate adaptation and promoting sustainable water management practices.

1.2. Purpose of the Ethics Management

Ethics plays a fundamental role in all research activities funded by the European Union (EU), as it is crucial for achieving genuine research excellence. The Ethics Management Plan for the TRANSCEND research project outlines the guidelines and procedures that will be followed to uphold ethical standards and promote the highest level of integrity throughout the project.

A comprehensive ethical evaluation of any outcome produced in TRANSCEND will be conducted by its authors following the Ethics Management Plan to ensure compliance with legal frameworks and enhance the overall quality of the research. The plan emphasizes applying fundamental ethical principles and legislation across all domains of the research project, ensuring that ethical considerations are integrated into every aspect of the project.

The D.7.2 Ethics Management Plan is a comprehensive resource that includes detailed research ethics guidelines, which are crucial in guiding ethical decision-making throughout the project. The D.7.2 promotes accountability, encourages mindful data management practices, and assists project partners in effectively planning and executing research activities.

In addition to outlining ethical guidelines, the Ethics Management Plan clarifies the ethics review processes. It offers specific guidance to all involved parties regarding their responsibilities and addresses potential ethical concerns. The plan establishes fundamental principles and responsibilities derived from European Commission regulations on research ethics in Horizon Europe (Regulation (EU) No 1291/2013, Article 19)

. It further provides procedures for assessing the need for mitigating ethics issues and offers tools such as the Research Ethics Protocol to facilitate the practical management of research ethics concerns.

TRANSCEND is fully committed to strict adherence to the participating countries' national legal and ethical requirements, namely Spain, Italy, Sweden, Austria, the UK, Slovakia, Greece, Lebanon, India, and the US. The project ensures comprehensive compliance with each partner organization's ethical principles and guidelines. Additionally, TRANSCEND upholds the regulatory frameworks and standards set forth by prominent entities such as Horizon Europe, Regulation 2016/679 (GDPR, i.e. data will be stored in OneDrive), the Charter of Fundamental Rights of the EU (2012/C 326/02), and the European Convention on Human Rights.

The Ethics Management Plan emphasizes the importance of integrity, rigor, and ethical conduct in research practices. It aims to provide guidance and support to all members of the TRANSCEND team, fostering a shared understanding of the criticality of maintaining high standards and adhering to guidelines regarding ethical conduct in research.

By integrating ethics into every project stage, the Ethics Management Plan is a critical document that guides the TRANSCEND research project in upholding ethical principles and ensuring compliance with legal requirements. Through these efforts, TRANSCEND strives to maintain the highest standards of research integrity, protect participant rights, and contribute to advancing knowledge ethically and responsibly.

2. Ethical Principles and Framework

2.1. Ethical considerations and issues in TRANSCEND

Among the policy objectives related to Research Ethics and Research Integrity in Horizon 2020, TRANSCEND supports the integration of society in science and innovation issues, policies and

activities, in order to integrate citizens' interests and values and to increase the quality, relevance, social acceptability and sustainability of research and innovation outcomes. Additionally, it supports the advancement of responsible research and innovation by all stakeholders (researchers, public authorities, industry and civil society organisations), which is sensitive to society's needs and demands, and promote an ethics framework for research and innovation in the field of adaptation to water scarcity and climate change.

Some potential ethical issues in the TRANSCEND project are:

- The involvement of human participants, especially if they are vulnerable individuals or groups, such as children, minors, persons unable to give informed consent, minority groups, immigrants, indigenous groups, etc., may raise concerns about protecting their rights, interests, welfare, and privacy.
- The collection, processing, storage, and sharing of personal data may raise concerns about compliance with the data protection regulations and the confidentiality of the data subjects. TRANSCEND will only use GDPR-compliant platforms for data sharing and storage.
- The potential harm or risk to the environment, animals, plants, or biodiversity due to research activities or outcomes may raise concerns about respecting ecological principles and sustainability.
- The potential misuse or dual use of the research results for malicious or unethical purposes, such as misinformation, surveillance, or espionage, may raise concerns about the researchers' and beneficiaries' responsibility and accountability.
- The potential conflict of interest, bias, fraud, or plagiarism may affect the quality and integrity of the research process and output, which may raise concerns about the adherence to the scientific community's ethical standards and codes of conduct.
- The use of Artificial Intelligence (AI) systems and models without sufficiently assessing the trustworthiness of AI systems based on seven key requirements: human agency and oversight; technical robustness and safety; privacy and data governance; transparency; diversity, non-discrimination, and fairness; societal and environmental well-being; and accountability.

The primary ethical concern of TRANSCEND revolves around collecting, using, and processing personal data, particularly during tasks from WP1 and WP2 (network and co-creation), where data related to specific users may be gathered. Data exchange will occur between the EU and Non-EU countries including Peru, Chile, Bolivia, Lebanon, Syria, Turkey, and India.

In all stakeholder engagement processes conducted as part of TRANSCEND, participants' data will only be collected if strictly necessary, such as covering travel and accommodation costs. If personal data is required, explicit prior informed consent will be obtained, and participants will be informed about their provided data's purpose, treatment, use, and protection. Contributions to the co-creation activities will be anonymized unless contributors agree otherwise. Any audio or video recording will only take place with the explicit consent of all participants.

The information from global to local scales (WP1 and WP2) will be collected during the participatory processes involving public authorities and regulators, utilities, users, civil society organizations, industry, and scientists. Local and international workshops, science-policy events, training courses, and outreach events will be co-created with stakeholders in the knowledge networks. Participation will

occur in person or remotely. The collected information during the participation processes will include the following:

- The relevant systems in each lab (including climatic, hydrologic, agricultural, and micro- and macro-economic systems, as well as other relevant systems), the key relationships between them, and the systems' models that will populate the ensemble
- Scenarios and TAP for each lab
- Vulnerabilities and trade-offs in TAP performance
- Operationalization of partnerships and novel financing mechanisms to secure sustainable investment into TAP, as well as measures to address regulatory, bureaucratic, policy, and other obstacles that may emerge during TAP implementation
- Validation of solution performance analysed by TRANSCEND based on participants' professional experience and knowledge.

The TRANSCEND consortium will provide users with information regarding the data to be collected, how it will be processed, and where, along with measures taken to ensure the privacy of all users involved unless explicit prior informed consent is obtained. The UU, responsible for data management (task 6.2), will ensure adherence to relevant principles and procedures concerning privacy, data protection, security, legal issues, and ethical challenges.

Currently, TRANSCEND does not anticipate any situation in any country that would jeopardize the safety of individuals participating in the research. Periodic monitoring will ensure this condition does not become a concern.

2.2. Legal and regulatory frameworks that apply to the research

TRANSCEND is committed to upholding strict ethical standards and safeguarding the rights of participants, particularly regarding privacy protection. This commitment involves compliance with international and national regulations. Notable regulations include:

1. Regulation (EU) 2016/679, commonly known as the General Data Protection Regulation (GDPR), focuses on protecting personal data and the free movement of such data. Its corrigendum was published on May 23, 2018.
2. In January 2012, the European Commission proposed an extensive reform of data protection rules (2012/0011 COD) to enhance online privacy rights and promote the growth of Europe's digital economy.
3. Directive 2006/24/EC, enacted by the European Parliament and the Council in March 2006, pertains to the retention of data generated or processed in connection with publicly available electronic communication services or public communication networks. It amends Directive 2002/58/EC, which addresses personal data processing and privacy protection in the electronic communication sector.
4. The Handbook on European data protection law, jointly developed by the European Union Agency for Fundamental Rights and the Council of Europe in 2013, serves as a valuable resource on data protection.
5. Our organization's principles and policies regarding research ethics, including those related to collecting, processing, analysing, and storing any personally identifiable and/or sensitive data.

Additionally, TRANSCEND will adhere to relevant national regulations, such as the *Ley Orgánica 3/2018, de 5 de diciembre, de Protección de Datos Personales y garantía de los derechos digitales* (Organic Law 3/2018, of December 5, on the Protection of Personal Data and Guarantee of Digital Rights) in Spain.

In situations where multiple regulations apply, particularly concerning data imports and exports, TRANSCEND will respect all relevant regulations, giving precedence to the most restrictive one at any time.

3. Ethical Board

The Ethical Board within the project is the group responsible for providing advice and overseeing the ethical aspects of the project, and ensuring compliance with the ethical standards and guidelines of the EU and the national laws of the countries involved. The Ethical Board will:

- Help prevent and resolve ethical issues or dilemmas during the project implementation, such as informed consent, data protection, privacy, confidentiality, etc.
- Review and monitor the deliverables with significant ethical elements within the project and provide feedback and recommendations to improve the ethical quality and performance of the project.
- Advise and support the project consortium on any ethical questions or challenges that may emerge during the project activities, such as stakeholder engagement, dissemination, exploitation, etc.
- Foster a culture of ethical awareness and responsibility among the project partners and participants.

The PSC will call upon the Ethical Board when identifying a relevant ethical issue. To determine whether a deliverable contains relevant ethical issues, the PSC will conduct an internal assessment informed by the Ethics Mentor. When a relevant ethical issue is identified following this procedure, the Ethical Board will be asked to revise the relevant deliverable and inform the PSC on the recommended actions. The PSC will then assess this information, advised by the Ethics Mentor, and respond to the issue.

The Ethical Board is gender balanced and will include the following individuals:

- Ethics Mentor, Dr. Daniel Terrón (USAL)
- Member of Ethical Board, Dr. Eulalia Gómez Martín (UPV)
- Member of Ethical Board, Dr. Tania Santos (SEI)
- Member of Ethical Board, Dr. Giuliano di Baldassarre (UU)

4. Data collection and stakeholders' involvement

TRANSCEND faces a significant ethical concern when it comes to data handling and usage, mainly concerning personal data gathered during engagement and participatory activities involving stakeholders and/or through the development of new monitoring tools. Additionally, this data is exchanged between EU countries and third countries. Personal data encompasses any information related to an identified or identifiable individual, even when individual pieces of information, when combined, can lead to identifying a specific person. Examples of personal data include full names, residential addresses, email addresses (e.g., name.surname@company.com), identification card numbers, and location data (e.g., borehole locations). Personal data that has been modified to make it impossible or no longer feasible to identify the individual is no longer considered personal data. To achieve true anonymization, the process must be irreversible.

The TRANSCEND consortium will ensure that users are fully informed about the specific data being collected from them, how it will be processed, and the measures taken by the consortium to guarantee the privacy of all users involved, especially if the data can potentially identify specific individuals unless explicit prior informed consent is obtained.

The project will comply with the institutions ethical research policies as well as with international and national regulations to observe strict ethical standards and guarantee participants' rights referring to privacy protection:

- Regulation (EU) 2016/679 of the European Parliament and of the Council of 27th April 2016 on the protection of natural persons regarding the processing of personal data and the free movement of such data, repealing Directive 95/46/EC (General Data Protection Regulation) (OJ L 119, 4.5.2016), including its corrigendum on 23rd May 2018.
- The European Commission's proposal in January 2012 for a comprehensive reform of the EU's 1995 data protection rules to enhance online privacy rights and bolster Europe's digital economy, 2012/0011 (COD).
- Directive 2006/24/EC of the European Parliament and of the Council of 15th March 2006 on the retention of data generated or processed in connection with the provision of publicly available electronic communications services or public communications networks, amending Directive 2002/58/EC concerning the processing of personal data and the protection of privacy in the electronic communication sector.
- The Handbook on European data protection law by the European Union Agency for Fundamental Rights and the Council of Europe (2013).
- The Project will follow relevant national regulations such as Ley Orgánica 3/2018, de 5 de diciembre, de Protección de Datos Personales y garantía de los derechos digitales (Spain).

The TRANSCEND consortium will prioritize providing comprehensive information to users regarding the precise data gathered from them, the procedures involved in its processing, and the steps taken to safeguard the privacy of all participants, particularly if the data could reveal their identities. This will be done unless explicit prior informed consent is obtained. The project will strictly adhere to international and national regulations, maintaining rigorous ethical standards and protecting participants' privacy rights.

Data protection within TRANSCEND is of utmost importance to ensure the privacy rights of participants. It encompasses a robust technical framework and stringent security measures to safeguard personal data from any unforeseen, unintended, or malicious use. Users involved in the project will receive comprehensive information regarding the procedures employed for data collection, storage, and processing.

The principle of proportionality will be strictly adhered to, ensuring that only the necessary data for research and validation are collected. Personal data collection will be conducted in a manner that is adequate and relevant to the objectives of the project. Moreover, all collected data will be anonymized to protect participants' identities further.

Storage, processing, and communication of personal data will be conducted in full compliance with the EU General Data Protection Regulation (Regulation (EU) 2016/679), its corrigendum issued on 23rd May 2018, and the relevant laws in each country involved. Each partner will identify and adhere to the specific local or national legal requirements in their respective countries and obtain the necessary authorizations from competent authorities to properly handle personal data.

4.1. Informed consent and assent

Obtaining informed consent and assent becomes essential when involving users in research, ensuring their voluntary participation and comprehension of the research objectives. Informed consent and assent involve three crucial elements: providing adequate information, ensuring voluntariness, and assessing competence. TRANSCEND users will be clearly informed about the research aims, the data collection and processing methods employed, potential risks or adverse events, and the option to decline participation or withdraw from the research at any time without facing any repercussions. The information provided to stakeholders will be presented in a manner that ensures their complete understanding and awareness of the implications associated with giving their assent.

TRANSCEND will ensure that users and stakeholders involved are provided with comprehensive information in advance, using appropriate Information Sheets. The Information Sheets will cover the following aspects:

- The research objectives and the implications of the research results.
- Detailed explanation of the experimental procedures and the participants' involvement.
- Identification of all potential benefits to participants or others that can reasonably be expected.
- Description of the measures taken to safeguard participants' privacy.
- Contact information for researchers who can address any questions related to the research and participant rights.
- A clear statement emphasizing voluntary participation, with no penalties for refusal or withdrawal from the project at any stage.
- General information about the overall research project.

TRANSCEND will require users to provide Informed Consent Forms, acknowledging their understanding of the Information Sheets and their consent to participate in the project. These forms will be securely collected, handled, and preserved by the partners, and will be made available to the

European Commission if necessary. Collected data will be stored in OneDrive for the duration of the project.

4.2. Stakeholder equity

The Consortium is committed to establishing a participatory process that is fair, unbiased, and equitable for all participants. It firmly upholds the principles of non-discrimination and recognizes the importance of embracing diversity across various dimensions, including race, ethnicity, education, socioeconomic status, and gender. By valuing and respecting individuals' unique backgrounds and perspectives, the Consortium aims to create an inclusive and harmonious environment.

The Consortium also actively promotes and upholds cultural, religious, and linguistic diversity. It recognizes the value of different cultural traditions, religious beliefs, and languages, fostering an atmosphere that respects and celebrates these diversities. Within all project activities, the Consortium strongly emphasizes striving for gender equality. It endeavors to ensure equal opportunities, representation, and participation for individuals of all genders, promoting a balanced and inclusive approach.

Furthermore, steps will be taken to ensure that tools (e.g., models, monitoring systems, etc.) developed through the project are accessible to all stakeholder groups to avoid creating or exacerbating power imbalances linked to information access. This will be ensured through a focus on ensuring all project outputs and products are open-source, and accompanied with detailed metadata and supporting documentation (as outlined in the project DMP) to provide equal and transparent access. Additionally, the capacity-building initiatives in TRANSCEND are designed to be inclusive and equitable, providing equal opportunities for individuals from diverse backgrounds to enhance their knowledge, skills, and capabilities.

Through these inclusive practices, the Consortium seeks to create a collaborative and dynamic environment that harnesses the strengths and experiences of diverse participants, fostering innovation, creativity, equitable capacity development, and mutual understanding.

5. Conflicts of interests

Given the extensive collaboration of professionals with diverse backgrounds in a complex project like TRANSCEND, it is important to acknowledge the potential for conflicts arising from technical, commercial, or Intellectual Property-related aspects. Addressing these conflicts within the project will be primarily resolved by escalating the matter to the corresponding work package leader and project coordinator. They will provide recommendations to the parties involved, considering the best interests of the consortium and seeking consensus. In rare instances where consensus cannot be reached, the issue will be referred to the PSC for resolution. In extreme cases, the European Commission Project Officer or another representative may be called upon to act as an arbitrator.

TRANSCEND will establish a systematic process for identifying and disclosing conflicts of interest. All researchers, sponsors, and other parties involved must disclose any potential conflicts of interest at the beginning of the project and continuously throughout its duration. These disclosures should

encompass financial relationships, collaborations, affiliations, and other relevant interests. Additionally, TRANSCEND will implement ongoing monitoring and review mechanisms to manage conflicts of interest appropriately. Regular assessments will be conducted to ensure the effectiveness and currency of the policies and procedures in place.

6. Gender perspective

The TRANSCEND Consortium acknowledges and will build upon the results and recommendations of various initiatives focused on gender equality, including the EC's Gender Equality Strategy, the Beijing Platform for Action, and EU reports on "Women and the Environment" and "Gender Equality and Climate Change." Our commitment lies in promoting equal opportunities and balanced participation of women and men in decision-making processes within our living labs and organizations. By recognizing both genders' unique realities and needs, our goal is to contribute to gender-responsive Transition and Action Plans (TAP) in Europe and globally.

In our living labs, we understand that gender and individual, cultural, social, and economic factors influence perceptions of climate change, water scarcity, and attitudes toward nature conservation. We acknowledge that gender also plays a significant role in vulnerability to water scarcity and climate change, considering material possessions, lifestyles, education, risk perception, and insurance coverage. Attaining gender balance is crucial for achieving equitable growth and successfully designing and implementing research and TAP aligned with Integrated Water Resources Management (IWRM) objectives.

To ensure gender dimensions and balance, TRANSCEND will consider the selection and involvement of stakeholders during activities requiring their participation. We will pay attention to gender-specific perceptions of different challenges, such as climate change and water scarcity, and include gender-specific criteria in evaluating various TAPs related to water scarcity. Gender-sensitive indicators will be developed to monitor water access and usage, assess gender balance in stakeholder engagement and decision-making, and incorporate gender considerations in cost distribution, recovery, and financing schemes. Additionally, we will monitor and promote women's access to training on TAP, including areas such as irrigation services.

Within the Consortium, we are committed to promoting equal opportunities and achieving gender balance at all levels of staff involved in the project. We aim to attract, retain, and advance high-quality female scientific researchers in line with the objectives of Horizon Europe. Consortium partners will assess gender-specific aspects of project activities and research, focusing on promoting a gender-balanced structure of ambassadors and Ph.D. students, equal involvement of women in leadership and implementation of TRANSCEND interventions, and the participation of women as speakers in project events.

By incorporating these considerations of gender equality, TRANSCEND seeks to foster a more inclusive and practical approach to addressing water scarcity and climate change and developing Transition and Action Plans.

7. References

Regulation (EU) No 1291/2013 of the European Parliament and of the Council establishing Horizon 2020: Ethical principles. (2013). Official Journal of the European Union, L 347, 81-107.