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DIGITAL TRANSFORMATION OF THE SOCIO-ECONOMIC SYSTEM IN THE REPUBLIC OF MOLDOVA

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***Abstract.** Digital transformation of the socio-economic system in the Republic of Moldova method is very actual and offers tools of diagnosis, evaluation, and observation that are accessible to the local actors of sustainable territorial development. The purpose of these tools is useful to draft relevant development projects, efficiently manage these projects, then evaluate them and estimate their impact. Research methods, data, and main results are intended for the actors of sustainable development to respect and favor the principles of participation, global approach, and partnership. They facilitate the mobilization of development partnerships that are composed of professionals who work in public services, private organizations, and active voluntaries in associations.*

***Key words:** Digital transformation, socio-economic system, method, research, evaluation, observation, sustainable development*

***Classification JEL:** Q55, Q56, O33*

INTRODUCTION

The successful proposal will contribute to fostering sustainable, balanced, and inclusive development of rural areas, supporting the implementation of the European Green Deal <https://ec.europa.eu/info/funding-tenders/opportunities/portal/>, in particular its fair and just transition component, the European digital strategy, the European pillar of social rights, and the EU long-term vision for rural areas. It will do so by supporting digital, social, and community-led innovations and by equipping rural communities with innovative and smarter solutions that increase access to services, opportunities, and adequate innovation ecosystems, including for women, youth, and the most vulnerable groups, improve the attractiveness and reduce the feeling of being left behind, even in the most remote locations like mountains. The increased availability of smart solutions and support to community-led innovations will empower people to act for change and get prepared to achieve climate neutrality by 2050, adapt to climate change, and turn digital and ecological transitions into increased resilience, good health, and positive long-term prospects, including jobs, for all including women, young people, and vulnerable groups.

Project results are expected to contribute to all of the following expected outcomes:

- Enhanced capacity of rural communities and rural people to innovate for change thanks to the specific outcomes below.

- Enlarged set of smart solutions for rural communities (practical and transferable innovative solutions to challenges faced by rural communities in a variety of fields e.g. social services, health, energy, mobility, climate adaptation and mitigation, biodiversity and ecosystem management, education, access to culture, etc.).
- Upgraded approaches, methods, tools, and skills to design, implement, monitor, and evaluate community-led innovations contributing to the implementation of the smart village strategies and social innovation <https://ec.europa.eu/info/funding-tenders/opportunities/portal/initiatives> improving i) rural people's well-being, ii) rural community resilience to shocks, iii) rural contributions to the United Nations Sustainable Development Goals and to the EU long-term vision for rural areas¹.
- Strengthened human capital, including networks, enhanced relations, and knowledge exchange between smart villages and rural community innovators on transferable innovations and innovation processes.

Methods

Proposals should start from past work conducted in the framework of i) EU action on smart villages, including the related preparatory actions; and ii) Horizon 2020 projects dedicated to social innovation in rural areas. Proposals should support a large number of rural community-led, social innovation or smart village pilot initiatives in a set of locations in the EU and Associated Countries representative of the diversity of social and geographical contexts. They should prototype, test, pilot, and demonstrate innovations that answer the most pressing rural challenges found at these locations, with particular attention to social and environmental challenges.

Proposals should explore various forms of innovations: technical, technological, business, organizational and social. Social innovation is recommended when the solution is at the interface between social and technical solutions and requires social change, new social practices, social ownership, or market uptake. Proposals should exploit in particular the potential of digital technologies to answer rural communities' challenges, respecting the principles of the declarations on "joining forces to boost sustainable digital transformation in cities and communities" and on "a smart and sustainable digital future for European agriculture and rural areas". Proposals should build on the work of projects funded under the topic DT-ICT-09-2020 and avoid duplications.

Results and discussions

Criteria for selecting the pilot initiatives supported should include the contribution to rural people's well-being, rural community resilience to shocks, Sustainable Development Goals, and the EU's long-term vision for rural areas as well as the potential transferability or replicability of the innovations to other European villages facing similar conditions. The experience gained from supporting these community-led innovation pilot initiatives should lead proposals to formulate upgraded approaches, methods, and tools that should be widely disseminated in close coordination with the 'expertise and training center on rural innovation funded under HORIZON-CL6-2021-COMMUNITIES-01-02. Proposals should also capitalize on i) rural innovation processes and knowledge and innovation systems or ecosystems needed to support rural community-led or social innovation and smart villages, and ii) lessons learned to improve policies and governance frameworks, especially on instruments supporting the development of social capital, social networks, social economy and social innovation and with attention to various needs of various target groups.

Proposals must implement the multi-actor approach, bringing together scientists alongside rural community organizations, action groups, or networks with a demonstrated ability to connect to a large number of local communities and disseminate and exploit project results. The consortium should bring together a multiplicity of competencies and science disciplines with an effective contribution of SSH disciplines, to ensure a skilled accompaniment of a wide range of innovation areas likely to come from the pilot initiatives (climate mitigation and adaptation, social care and services, energy, mobility, culture, education, etc.) and innovative approaches and technologies (technical, organizational, social, digital). It should demonstrate substantial prior experience in facilitating community-led bottom-up innovation initiatives.

As an option, proposals may provide financial support to third parties, particularly for SMEs or entities who would develop specific innovative solutions needed in the pilot initiatives. Consortia who decide to use this option should define the selection process of entities for which financial support will be granted.

Proposals should include a task to cooperate with other projects funded under this topic, other relevant innovation projects, and with the ‘expertise and training center on rural innovation’ funded under HORIZON-CL6-2021-COMMUNITIES-01-02 from the beginning of the project (taking up tools and training kits) until its end (dissemination of upgraded tools and smart solutions) and with the projects funded under HORIZON-CL6-2022-COMMUNITIES-01-01 for issues related to women-led innovation. Proposals should also foresee close coordination with the common agricultural policy networks to maximize the contribution of project activities to the achievement of future common agricultural policy (2021-2027) objectives, in particular in relation to smart villages. Finally, proposals are encouraged to liaise with the relevant European Institute of Technology knowledge and innovation communities.

Places and people matter to the achievement of a more sustainable Europe. The Sustainable Development Goals and the ecological and digital transitions brought forward by the European Green Deal [https://ec.europa.eu/info/strategy/priorities-2019-2024/european-green-deal_en] and digital strategy [https://ec.europa.eu/info/strategy/priorities-2019-2024/europe-fit-digital-age/shaping-europe-digital-future_en], alongside the recent pandemic, bring challenges and opportunities that differ for different places and people. Rural (including mountains and sparsely populated areas) and coastal areas play a key role in managing, protecting, and using natural resources. The provision of both private and public goods from these areas depends on the resilience and attractiveness of rural and coastal communities and the capacity of people who live and work there to access a sufficient level of well-being. The COVID-19 pandemic has highlighted deficiencies in digital infrastructures and economic opportunities that hamper resilience. Urban communities generally offer better access to many services but are also more vulnerable to supply-chain disruptions, as shown during the COVID-19 pandemic. Furthermore, they have a key role to play in fostering sustainable production and consumption as major demand drivers. In all communities, social and behavioral drivers play an important role in enabling or slowing down transitions. Knowledge and innovative solutions need to be developed to enhance every community’s resilience and capacity to contribute to and benefit from the upcoming transitions in an economy that works for all territories and ensure a fair and just transition leaving no one behind.

Under this destination, transdisciplinary R&I with a strong social and behavioral sciences dimension, and attention to gender aspects, will foster a sustainable, balanced and inclusive development of rural [*R&I will support the implementation of an EU-level long-term vision for rural areas to be published in the 2nd quarter of 2021*], coastal and urban areas in three different ways. Firstly, it will aim to increase our understanding of the differential impacts of climate, environmental, socio-economic, and demographic changes on rural, coastal and urban areas in order to identify ways to turn these changes into equal opportunities for people wherever they live, enhancing territorial cohesion and enabling a just transition. Secondly, it will explore innovative ways to tailor policy responses to the place-based challenges identified at various levels of governance. Thirdly, it will support bottom-up community-led innovation to empower communities to develop, test, and upscale solutions that answer global challenges in locally adapted ways. Achieving policy goals requires providing people with more equitable access to the knowledge and skills required to make informed choices and be actively engaged in the sustainable and circular management of natural resources, from production or service provision to consumption. Rural, coastal and urban communities, in particular women, youth, the most vulnerable groups like indigenous people and those hit the hardest by the COVID-19 pandemic, need to see their labor conditions, quality of life, and long-term socio-economic prospects improved in the context of major transitions and rising threats to climate, resources, and health. Their capacity to drive community-led innovations must be enhanced and their resilience increased across the diversity of European territories including remote places such as mountains and sparsely populated areas.

Mobilizing the forces of digital transformation, start-up ecosystems, nature-based solutions, as well as social and policy innovation will facilitate necessary changes and support smart, environmental and climate-friendly, and resilient lifestyles.

Activities under this destination are complementary to Cluster 2 activities with attention to spatial differences and specifics in relation to democracy (Destination ‘Innovative research on democracy and governance’), socio-economic transformations (Destination ‘Innovative research on social and economic transformation’), and cultural heritage (Destination ‘Innovative research on the European cultural heritage and the cultural and creative industries’). They are also complementary to Cluster 5’s Destination ‘Cross-sectoral solutions for the climate transition’ on cities and communities that should explore place-based approaches to climate, energy, and mobility specifically for all places.

To maximize the intended impacts and to ensure uptake by the communities, actions in the cluster should aim for high standards of transparency and openness for the solutions developed, going beyond ex-post documentation of results and extending to aspects such as assumptions, processes, models, and data during the life of projects.

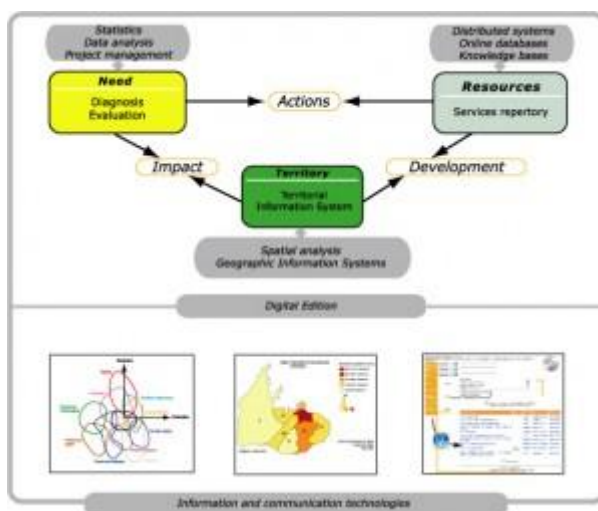


Figure. 1 Catalyze-method

1. The diagnosis and evaluation tools mutualize and process the multi-field individual information to define needs profiles and to measure their importance, in order to offer the services that are adapted to these needs. Then, the same tools are used to evaluate the actions that give services to people. They are the following ones:

The guide of diagnosis and evaluation gathers the information individual according to a multi-sector approach. This guide is divided into themes that include several questions. To make the guide exploitation easier, each question has a closed nature: it allows choosing between several modalities of answer.

2. The repertory of services is on a data basis it is possible to update and consult online. It makes an inventory of the services to people that are accessible to the territory inhabitants. Each service is described thanks to a form whose contents are structured in themes, descriptors, and modalities, as the guide. The correspondence between the guide questions and the repertory descriptors allows comparing the diagnosed needs and the inventoried services. This confrontation between demand and offer allows evaluating the relevance of the existing services and identifying the missing services, so as to adapt the services offer to the expressed needs.

3. The system of territorial indicators integrates a selection of information with a socio-economic nature that describes the territory and the territorial community. These data are constituted are provided by the statistical services of specialized institutions. These indicators are accessible online. The system of territorial indicators publishes needs, services, and territorial indicators maps. They allow comparing the needs territorial distribution with the services territorial distribution and possibly with the territorial indicators to optimize the services localization.

4. The Pragma and Anaconda software can also be used to analyze the services and contextual indicators, in a quantitative qualitative way. Catalyze also offers participative governance of sustainable development partnerships.



Catalyze-method-governance the actors who constitute the development partnership are gathered in an operational group. It defines all the useful data, supervises the analyses, and interprets the results. It drafts the multi-sector guide of diagnosis and evaluation, the repertory of services, and makes the selection of the territorial indicators that are coherent with the guide. It regularly updates the documents or the databases. The partners gather the data and share them for analysis. A qualitative diagnosis identifies the main needs profiles whereas quantitative sorting estimates the importance of the corresponding groups of persons.

Then, the actors participate in the interpretation of the results thematic workshops that are defined and constituted according to the needs profiles. The workshops confront the needs that were underlined by the diagnosis with the repertory of services to identify the deficiencies and non-adaptations of the services offered with respect to the needs. They need territorial distribution to the services one too. They confront the results to the territorial indicators to exploit the territory potentialities and to take into account its constraints.

This observation step leads to projects that are drafted within the project groups. Then, it allows regularly evaluating the led actions. The partnership also guarantees the publication of the results, firstly on an extranet website that is intended for the partners, then on a public Internet website.

Expected impacts

Proposals for topics under this destination should set out a credible pathway to contributing to resilient, inclusive, healthy, and green rural, coastal, and urban communities and more specifically one or several of the following expected impacts:

- Rural, coastal and urban areas are developed in a sustainable, balanced, and inclusive manner thanks to a better understanding of the environmental, socio-economic, behavioral, cultural, and demographic drivers of change as well as deployment of digital, nature-based, social and community-led innovations.
- Rural, coastal and urban communities are empowered to act for change, better prepared to achieve climate neutrality, adapt to climate change, and turn digital and ecological transitions into increased resilience to various types of shocks, good health and positive long-term prospects, including jobs, for all including women, young people, and vulnerable groups.
- Rural communities are equipped with innovative and smarter solutions that increase access to services, opportunities, and adequate innovation ecosystems, including for women, youth, and the most vulnerable groups, improve the attractiveness and reduce the feeling of being left behind, even in the most remote locations like mountains.
- The sustainable development of coastal areas including coastal protection and resilience reaps the benefits of social, digital, and community-led innovations, to deliver nature-based and scientifically validated solutions to existing coastal socio-economic and environmental threats. In this way, applications of new social, economic, and governance frameworks are enabled.

- Tourism, recreational, and leisure activity development in natural and coastal areas respect long-term environmental carrying capacity and social goals.
- Urban and peri-urban communities – including the most vulnerable individuals and families – can access, afford and choose healthier, nutritious, and environmental-friendly food.

CONCLUSIONS

When considering their impact, proposals also need to assess their compliance with the “Do No Significant Harm” principle [as per Article 17 of Regulation (EU) No 2020/852 on the establishment of a framework to facilitate sustainable investment (EU Taxonomy Regulation)] according to which the research and innovation activities of the project should not be supporting or carrying out activities that make significant harm to any of the six environmental objectives of the EU Taxonomy Regulation.

Topics under this destination will have impacts in the following impact areas of the Horizon Europe strategic plan for 2021-2024 [Link to the strategic plan]: “Climate change mitigation and adaptation”; “Enhancing ecosystems and biodiversity on land and in water”; “Sustainable food systems from farm to fork”; “Good health and high-quality accessible healthcare”; “A resilient EU prepared for emerging threats”; “A competitive and secure data-economy”; and “Inclusive growth and new job opportunities”.

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