

“A Survey-based Impact Evaluation of NRRP on Italian Municipalities”

The elaboration of Composite Indicators of NRRP impact on Italian municipalities

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Construction of Composite Indicators

Within the framework of the evaluation activities conducted under the project “*A Survey-based Impact Evaluation of NRRP on Italian Municipalities*”, a structured system of composite indicators has been developed to capture the main dimensions of territorial, administrative, and socio-economic transformation associated with NRRP-funded interventions at the municipal level.

Accordingly, this document presents the conceptual and methodological framework underpinning the construction of these composite indicators, clarifying their analytical foundations and their role within the overall evaluation strategy.

This approach is grounded in the recognition that the NRRP constitutes a large-scale and multi-layered public policy intervention across Italian territories. Its effects frequently extend beyond the contribution of individual projects, as investments may interact, reinforce one another and generate complementary or cumulative dynamics that are not easily observable through isolated project-level analyses.

Against this background, the performance of the NRRP is examined through synthetic indicators designed to provide an integrated and comparable representation of its multidimensional dynamics across municipalities. In line with the project's general objectives, the analysis concentrates on three key domains in which NRRP interventions are expected to play a relevant role:

- **Public Administration Modernization**, with particular reference to digitalisation, simplification and strengthening of administrative capacity;
- **Territorial Development**, including infrastructure endowment, local economic dynamics and inclusive growth;
- **Individual Well-being**, understood as improved access to services, enhanced quality of life and greater social cohesion.

The contribution of the NRRP is therefore interpreted not as the isolated outcome of single funded actions, but as its overall influence on changes observed in these three synthetic dimensions. Beyond their analytical function, these indicators provide a coherent and comparable framework for assessing municipal performance across territories, highlighting relative positioning, strengths and criticalities. In this perspective, the system offers policymakers structured and territorially grounded information to support reflection on ongoing interventions and to inform the orientation of future policy actions.

1.1 Survey-Based Measurement Framework

The construction of the composite indicators relies on the information gathered through a structured questionnaire administered to municipalities acting as NRRP implementing entities (see questionnaire at: <https://nrrpsurvey.econ.univpm.it/questionario.pdf>).

Each composite index integrates:

- Objective (quantitative) indicators derived from administrative data and physical measures of outputs;
- Subjective (qualitative) indicators collected through the survey instrument, capturing perceived changes in key impact dimensions.

The integration of objective and perceptual components allows for a comprehensive assessment of measurable outcomes and expected transformation dynamics at the municipal level.

1.2 Territorial Development and Sustainability Index

This dimension captures environmental sustainability, energy efficiency, and territorial resilience activated by NRRP investments.

1.2.1 Quantitative Components

- Energy production from renewable sources financed through municipal budget-registered funds (MWh);
- Annual primary energy consumption of school buildings (MWh);
- Share of separate waste collection over total municipal waste;
- Municipal area classified as high hydro-geological risk (km²).

1.2.2 Qualitative Components (Survey – single response)

- Expected change in territorial energy sustainability;
- Expected change in annual primary energy savings;
- Expected change in additional installed renewable energy capacity.

1.3 Well-being and Social Inclusion Index

This dimension captures the direct impact of NRRP interventions on citizens' quality of life by assessing the contribution of NRRP investments to enhancing local socio-economic well-being through strengthened access to essential public services, greater social

inclusion, improved physical and cognitive accessibility of public spaces, as well as cultural valorization and territorial attractiveness.

1.3.1 Quantitative Components

- Number of authorized childcare and preschool places;
- Surface area allocated to municipal school gyms (m²);
- Surface area allocated to municipal school canteens (m²);
- Number of sports facilities built or regenerated.
- Number of interventions aimed at improving physical and cognitive accessibility of public buildings and infrastructures.

1.3.2 Qualitative Components (Survey – single response)

- Expected change in social inclusion (services for vulnerable groups, female labor participation, etc.);
- Expected change in citizens' socio-economic well-being.
- Expected change in tourism attractiveness;
- Expected change in the capacity to attract new residents;
- Expected change in physical and cognitive accessibility of public spaces.

1.4 Municipal Digitalization Index

This dimension captures the internal transformation of municipal administrations aimed at enhancing the provision of digital public services to citizens and firms, with a particular focus on digitalization, technological upgrading, and the strengthening of administrative capacity.

1.4.1 Quantitative Components

- Number of services with active payment through PagoPA;
- Number of online services accessible via SPID/CIE;
- Number of services integrated into the IO App;
- Number of services migrated to cloud infrastructure;
- Number of municipal employees trained in digital skills;
- Number of accesses to the municipal institutional website.

1.4.2 Qualitative Components

- Expected change in digital public services for citizens;
- Expected change in digital public services for firms;
- Expected change in the overall level of municipal digitalization.

1.5 Methodological Coherence

The indicator framework is fully aligned with the strategic objectives of the NRRP, the structure of the Pre-Analysis Plan (PAP), and the integrated quantitative–perceptual evaluation approach adopted by the project.

The construction of composite indicators enables synthetic measurement of impact dimensions, cross-municipal comparisons, and integration into econometric counterfactual evaluation models.