

Localization of Sustainable Development and Production Factor: the Case of Georgia

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Abstract. In contemporary conditions, the study of sustainable development has become increasingly relevant not only at the state level but also at the local level within specific regions. Municipal sustainable development is a long-term transformation process that, along with institutional changes, involves scientific-technical and personal development. The municipality serves as the primary link where the basic indicators of sustainable development are formed, laying the foundation for the development of other systems. Approaches to sustainable development in local space through the creation of economic value remain underexplored in contemporary scientific discourse. Municipal action is one of the decisive factors for achieving the United Nations Sustainable Development Goals (SDGs). The localization of the SDGs is not a simple procedure, as municipalities differ from each other in many parameters and capabilities. Alongside development disparities, municipalities also exhibit varying degrees of sustainability. This paper examines the key challenges faced by municipal actors in Georgia in the process of implementing the SDGs. The study focuses on the production component of the economic factor and, based on quantitative research, determines the significance of its influence using two models. According to the first model, promoting investments in fixed assets is extremely important, as each one-point increase leads to a seven-point rise in production output. According to the second model, each one-point increase in produced output results in a 0.8-point increase in the average monthly remuneration of hired employees. © 2026 Bull. Natl. Acad. Sci. Georg.

Keywords: municipality, sustainable development, production, localization

Introduction

The development of Georgia's regions plays a crucial role in ensuring the sustainability of the national economy. Sustainable development largely depends on the resource potential of the system, which acts as a driving force for its progress.

In the current context, accelerating the pace of development remains a significant challenge for Georgia's economy. Addressing this issue requires

the inclusive participation of all regions in the development process, alongside the advancement of regional infrastructure. Municipalities are key players in this effort, serving as specialized systems for resource generation and laying the groundwork for innovative development.

Urban planning, transportation systems, water supply, sanitation, waste management, risk reduc-

tion, and access to information and education are all closely linked to municipal development.

In 2015, the United Nations General Assembly adopted the resolution Transforming Our World: The 2030 Agenda for Sustainable Development, which introduced 17 Sustainable Development Goals (SDGs) and 169 associated targets. On July 6, 2017, the UN General Assembly adopted resolution A/RES/71/313, approving a global indicator framework to measure progress on these goals.

The SDGs aim to unite governments and populations around the world in addressing major global challenges, including eradicating poverty and hunger, improving healthcare and education, promoting gender equality, advancing sustainable urban development, combating climate change, protecting oceans and forests, and establishing effective, accountable, and inclusive institutions at all levels (UN, 2017; UN Georgia, 2020).

Localization of sustainable development in Georgia. Global challenges have attracted increasing attention since the 1950s. Today, they have a significant impact on both national and global economies and determine to a great extent the prospects for sustainable development. These global challenges should be viewed as large-scale issues that can only be addressed through the joint efforts of countries (Abesadze, 2017).

The SDGs represent a continuation of the Millennium Development Goals (MDGs), which were implemented from 2000 to 2015. In 2015, upon the completion of that period, the MDGs were transformed into the more comprehensive SDGs (UN, 2017).

Table 1. Sustainable development goals and components

SDGs components	SDGs quantity	
	on a global level	on a local level
Economic	9	6
Social	10	8
Ecological	8	3

Source: The Table was compiled by the authors from research results.

The Sustainable Development Goals Report 2024 highlights that nearly half of the 17 goals are showing only minimal or moderate progress, while one-third show stagnation or deterioration in implementation since UN member states adopted these goals in 2015 to ensure peace and well-being for people and the planet. The report identifies the COVID-19 pandemic, escalating conflicts, geopolitical tensions, and worsening climate conditions as the main obstacles to progress (UN, 2025). It is noteworthy that in this regard, the impact of the COVID-19 pandemic was extremely negative at the local level as well, when it was not possible to ensure economic development and avoid economic recession and crisis (Jibuti, 2020).

In 2015, the Administration of the Government of Georgia assumed leadership and coordination of the nationalization process of the SDGs. Following extensive consultations and with consideration of national challenges and context, all 17 SDGs and 93 associated targets were adopted as national priorities. This process involved all relevant government agencies, UN entities in Georgia, and civil society organizations (IDFI, 2021).

According to 2024 data, Georgia ranks 43rd out of 166 assessed countries, with a score of 74.91 in overall SDG progress. However, when evaluated on its socio-economic and environmental impact on other countries, Georgia ranks 96th with a score of 88.16 (UN, 2024).

Achieving sustainable development outcomes at the national level is closely linked to effective implementation of tasks at the local level, particularly within municipalities and self-governing cities. This linkage is reflected in Georgia's national SDG documents. In particular, SDG 11 focuses on "inclusive, safe, and sustainable development of cities and settlements", which identifies two tasks adapted for Georgia: ensuring safe living conditions for internally displaced persons in Georgia and reducing negative environmental impact per capita in large cities by 2030, including paying

special attention to air quality and municipal and other waste management issues

The Action Plan for the Localization of SDGs was approved by the Inter-Agency Council for SDGs in 2021, with implementation beginning the same year. The plan outlines a gradual approach to involving all municipalities in the SDG implementation process, with full engagement expected by the end of 2025 (MESD of Georgia, 2024).

Local governments play a crucial role in this process. Beyond participating in localization efforts, self-governing units independently define local agendas, develop priority programs, and engage in the implementation and monitoring of SDG-related activities. Local and regional governments were instrumental in shaping SDGs and launched the campaign for “inclusive, safe, and sustainable cities and settlements” (SDG 11). They also played a key role in achieving national consensus on SDG implementation (Turashvili & Nikuradze, 2022).

Naturally, local governments are most familiar with the specific challenges within their jurisdictions. As municipalities exercise exclusive powers directly linked to citizens’ well-being and living standards, it is essential that they ensure strong stakeholder engagement and prioritize local needs in SDG planning and implementation.

In accordance with the SDGs, Georgia's municipalities have implemented certain measures over the past three years to address individual SDG targets at the local level, though their capacities and approaches vary. Many municipalities have already prepared SDG documents and established mechanisms for implementation, monitoring, and reporting. Local SDG Councils, supported by thematic working groups, covering areas such as healthcare and social inclusion, infrastructure and economic development, and environmental protection, have been created.

Municipal SDGs are now aligned with local budget programs and sub-programs. Specific muni-

cipal services and organizations have been designated for implementation, monitoring, and reporting. Moreover, an annual monitoring and reporting system has been introduced, enabling municipalities to identify existing challenges, propose solutions, and accelerate progress toward achieving the global SDGs at the local level (Chikhladze & Rusadze, 2024).

The effect of production output on SDGs localization. Based on data from the National Statistics Office of Georgia (Geostat), an analysis of production output by municipality reveals significant disparities in production capacity across different municipalities (Fig. 1).

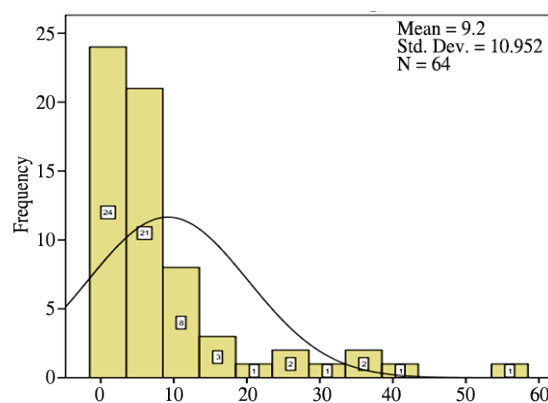


Fig. 1. Frequency distribution of georgian municipalities by production output per capita (thousand GEL).

Virtually the same situation is also confirmed by the analysis conducted using four production-related indicators. In terms of production output, the share of 5 self-governing cities (Tbilisi, Batumi, Rustavi, Kutaisi, and Poti) accounts for 79% of the national total, while the remaining municipalities contribute only 21%. According to added value (AV), this ratio is 84% and 16% respectively, for fixed asset investments (FAI), it is 82% and 18%, and for the number of employees, 78% and 22% (Fig. 2).

To study the influence of production factors on the sustainable development of municipalities, a

regression analysis conducted. Self-governing cities were excluded from the sample and one municipality from each region was selected. We chose pairs for regression analysis: the first analyzed the relationship between the volume of produced output and investments in fixed assets (IFA), while the second examined the relationship between the volume of produced output and the average monthly remuneration of hired employees.

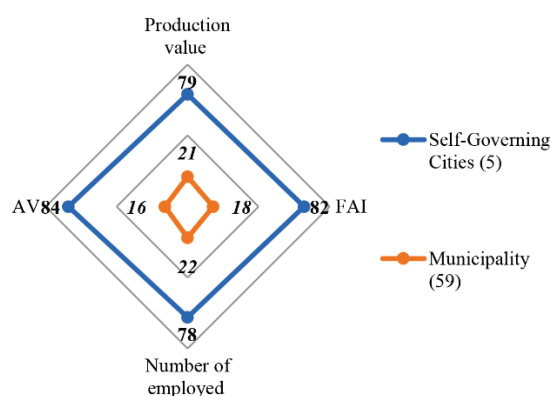


Fig. 2. Differences between municipalities according to four production-related indicators.

Source: Compiled by the authors, according to National Statistical Service of Georgia

The analysis conducted for the selected municipalities (Kobuleti, Ozurgeti, Zestaponi, Telavi,

Mtskheta, Ambrolauri, Zugdidi, Borjomi, Bolnisi, and Gori) also confirms significant disparities in the capabilities and potential of municipalities (Table 2).

For the first model, the correlation coefficient was $R = 0.703$, while the coefficient of determination was $R^2 = 0.495$, indicating the upper threshold of moderate correlation. For the second model, the correlation coefficient was $R = 0.821$, while the coefficient of determination was $R^2 = 0.674$, which reflects a strong correlation level.

Based on the regression analysis presented in Table 3, we can conclude that the first model exhibits a positive linear relationship between the variables. The coefficient of determination is approximately 0.5, indicating that the regression line accounts for 50% of the variability in the “production output” variable (and correspondingly, in the “investments in fixed assets” variable).

Similarly, the second model also demonstrates a positive linear relationship between the variables. In this case, the coefficient of determination suggests that the regression line explains 67.4% of the variability in “production output” (and correspondingly, in the “average monthly remuneration”). However, it is likely that in both models there are

Table 2. Main data of descriptive statistics

	Production value	Investments in fixed assets	Average monthly remuneration of employees
Valid	94	94	94
Mean	438.72	34.48	865.82
Median	435.60	28.80	783.80
Mode	231	19	737
Range	1261	109	1887
Minimum	16	1	324
Maximum	1277	110	2211

Table 3. Summary table of models

Model	Unstandardized coefficients		Standardized coefficients	The resulting equation	R	R Square
	B	Std. error	Beta			
1	(Constant)	185.267	33.045	Y=7.35X+185.3	.703	.495
	X	7.350	.774			
Model	Unstandardized coefficients		Standardized coefficients	The resulting equation	R	R Square
	B	Std. Error	Beta			
2	(Constant)	482.643	35.323	Y=0.796X+482.6	.821	.674
	X	.796	.058			

additional relevant variables as well as interactions that were not included in the analysis. Their inclusion in the research could increase the correlation value.

The equation of the first model indicates that investments in fixed assets are highly significant. Specifically, a one-point increase in investment leads to a 7-point increase in production output. In the second model, a one-point increase in production output results in a 0.8 point increase in the average monthly remuneration of hired employees.

Conclusion

The study has highlighted the need to consider the specific aspects of sustainable development at the municipal level.

When preparing strategic and program documents, developing action plans, and setting priorities, municipalities must ensure the integration of the SDGs. Experience has shown the importance of raising awareness about the UN Sustainable Development Agenda and providing comprehensive

information on the mechanisms for implementing, monitoring, and reporting these goals at the local level. It is desirable that the involvement of local self-government representatives in the SDG National Council be activated (decision-making and real participation in working groups). During the budget planning process, including the development of individual programs, all relevant indicators for measuring progress toward the SDGs must be taken into account. Achieving these goals requires appropriate financial resources, which must be considered when preparing municipal budgets.

Dependence on external factors reduces the sustainability of the municipal system, highlighting the importance of effectively using internal resources and potential. Regarding the production output factor, which is an economic component of SDGs, the significance of investments in fixed assets was revealed. Additionally, a positive impact on the average monthly remuneration of hired employees, which can become a prerequisite for improving social conditions was observed.

*ეკონომიკა***მდგრადი განვითარების ლოკალიზაცია და წარმოების ფაქტორი საქართველოს მაგალითზე****ნ. ჩიხლაძე*, ნ. რუსაძე**, ლ. ჩიხლაძე§**** აკაკი წერეთლის სახელმწიფო უნივერსიტეტი, ეკონომიკის დეპარტამენტი, ქუთაისი, საქართველო**** აკაკი წერეთლის სახელმწიფო უნივერსიტეტი, ბიზნესის ადმინისტრირების დეპარტამენტი, ქუთაისი, საქართველო**§ რუსეთის ხალხთა მეგობრობის უნივერსიტეტი, იურიდიული ინსტიტუტის მუნიციპალური სამართლის კათედრა, მოსკოვი, რუსეთის ფედერაცია*

(წარმოდგენილია აკადემიის წევრის მ. ჯიბუტის მიერ)

თანამედროვე პირობებში მდგრადი განვითარების საკითხების შესწავლა სულ უფრო აქტუალურია არა მხოლოდ სახელმწიფოებრივ, არამედ ლოკალურ, კონკრეტული ტერიტორიის დონეზეც. მუნიციპალიტეტის მდგრადი განვითარება გარდაქმნათა ხანგრძლივი პროცესია, რომელიც ინსტიტუციურ ცვლილებებთან ერთად სამეცნიერო-ტექნიკურ და პიროვნულ განვითარებას უკავშირდება. სწორედ მუნიციპალიტეტი არის პირველადი რგოლი, სადაც ფორმირდება მდგრადი განვითარების საბაზო მაჩვენებლები და იქმნება საფუძველი სხვა სისტემების განვითარებისათვის. მდგრადი განვითარებისადმი მიდგომები ლოკალურ სივრცეში ეკონომიკური ღირებულების შექმნით თანამედროვე სამეცნიერო მიმოქცევაში სრულყოფილად არ არის გაანალიზებული. გაეროს მდგრადი განვითარების მიზნების (SDGs) მისაღწევად ერთ-ერთი გადაწყვეტა მუნიციპალიტეტის მოქმედება. SDGs ლოკალიზაცია არ არის მარტივი პროცედურა, რამდენადაც მუნიციპალიტეტები ერთმანეთისაგან მრავალი პარამეტრით და შესაძლებლობით განსხვავდებიან. ისინი, განვითარების უთანაბრობასთან ერთად, მდგრადობის განსხვავებულ ხარისხსაც ავლენენ. მდგრადი განვითარების მიზნების ეროვნულ დონეზე გადაჭრა და საბოლოო პოზიტიური ეფექტების მიღწევა მჭიდრო კავშირშია ლოკალურ დონეზე (მუნიციპალიტეტი, თვითმმართველი ქალაქი) რიგი ამოცანების შესრულებასთან. ეს გათვალისწინებულია მდგრადი განვითარების მიზნების ეროვნულ დოკუმენტებში. თავის მხრივ, ეს დოკუმენტები იმავე პრობლემის მოგვარების ლოკალური დოკუმენტის საფუძველია. ნაშრომში განხილულია საქართველოში არსებული ის ძირითადი გამოწვევები, რომლებსაც აწყდებიან მუნიციპალიტეტის აქტორები SDG-ების განხორციელებისას. მასში გამოყოფილია ეკონომიკური ფაქტორის წარმოების მდგენელი და რაოდენობრივი კვლევის საფუძველზე, ორი მოდელის მიხედვით, დადგენილია მისი გავლენის მნიშვნელობა. პირველი მათგანის მიხედვით, ძალზე მნიშვნელოვანია ფიქსირებულ აქტივებში ინვესტიციების ხელშეწყობა, რამდენადაც მისი ყოველი ერთეულით გაზრდა პროდუქციის გამომშვებას 7 ერთეულით გაზრდის. მეორე მოდელით, გამოშვებული პროდუქციის ყოველი ერთეულით გაზრდა 0.8 ერთეულით გაზრდის დაქირავებით დასაქმებულთა შრომის საშუალოთვიურ ანაზღაურებას.

REFERENCES

- Abesadze, R., (2017). Modern global trends and problems of sustainable development. In *Proceedings of the International Scientific Conference Structural and Innovative Problems of Economic Development*, P. 5-15. Gugushvili Institute of Economics, Tbilisi.
<http://www.conferenceconomics.tsu.ge/?mcat=0&cat=arq&leng=ge&arq=2&arqdata=2017-12-28>
- Chikhladze, N., Rusadze, N., (2024). Challenges of sustainable development in Georgian cities: case of Kutaisi. In *Proceedings of the Multidisciplinary International Scientific Conference "Sustainable Development: Modern Trends and Challenges"*, 1-13. Central University of Europe, Kutaisi,
https://cue.edu.ge/Articles_pdf/58b5b4da4a5e7c0587536ae53bcbea3b.pdf
- Jibuti, M. (2020). *Impact of the COVID-19 pandemic on municipal budgets and revenues in Georgia*. National Association of Local Authorities of Georgia. <http://science.org.ge/wp-content/uploads/2021/10/მ.ჯიბუტი.pdf>
- Ministry of Economy and Sustainable Development of Georgia (2024). *Sustainable Development*.
<https://www.economy.ge/?page=ecopolitic&s=43>
- National Statistical Service of Georgia. (2024). Business statistics. Statistical survey of region enterprises.
<https://www.geostat.ge/en/modules/categories/195/business-statistics>
- The Institute for Development of Freedom of Information. (2021). Sustainable Development Report 2021: Overview and Results for Georgia. <https://idfi.ge/public/upload/Analysis/SDGResults-GEO.pdf>
- Turashvili, T., & Nikuradze, G. (2022). *A Practical Guide to localizing the sustainable development goals*. IDFI,
https://idfi.ge/public/upload/Handbook/practical_handbook_for_the_localization_of_sustainable_development_goals-%20GEO.pdf
- United Nations (2017). *Global indicator framework for the sustainable development goals and targets of the 2030 Agenda for sustainable development*, <https://unstats.un.org/sdgs/indicators/indicators-list/>
- United Nations Georgia (2020). *United Nations Sustainable Development Cooperation Agreement (2021-2025)*.
https://georgia.un.org/sites/default/files/2021-04/GEORGIA-UNSDCF-%202021-2025_%2025-12.pdf
- United Nations (2025). *The Sustainable Development Goals Report 2024*. <https://unstats.un.org/sdgs/report/2024/>
- United Nations (2024). SDG Transformation Center. Sustainable Development Report. Georgia, 2024.
<https://dashboards.sdgindex.org/profiles/georgia>

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