Study on application of EU NUTS methodology in Georgia and its practical implications.

The document has been developed by the team of experts:

Zaza Chelidze, Jaksa Puljiz and Tomasz Kilianski

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Acronyms and Abbreviations

AR	Autonomous Republic
EC	European Commission
EEA	European Economic Area
EFTA	European Free Trade Association
ERDF	European Regional Development Fund
ESF	European Social Fund
EU	European Union
FDI	Foreign Direct Investments
GEL	Georgian Lari
Geostat	National Statistics Office of Georgia
GDP	Gross Domestic Product
GVA	Gross Value Added
LAU	Local Administrative Unit
MRDI	Ministry of Regional Development and Infrastructure
NUTS	The Nomenclature of Territorial Units for Statistics
PIRDP	Pilot Integrated Regional Development Programme
PPS	Purchasing Power Standards
RDP	Regional Development Programme

Objective of the study

This study paper has been developed upon a request of Ministry for Regional Development and Infrastructure of Georgia, which is interested in the introduction of contemporary approaches to the development and implementation of evidence-based regional development policies and interventions. In this context, the objective of this study is to propose to the Georgian Government scenarios for the application of the methodology on the Nomenclature of Territorial Units for Statistics (NUTS) developed by EUROSTAT. The methodology is used in the EU as a grid for organising the system of common socio-economic statistical data, policy making (including EU cohesion policy) alongside monitoring and evaluation of their efficiency and effectiveness. NUTS methodology captures data in each country at the level of 4 regional units (as elaborated further in this study paper).

This study paper presents underlying principles on the introduction and management of NUTS methodology, examples of other countries as to how to sub-divide a state into NUTS regional units, geographical options for Georgia for possible NUTS demarcation and recommendations with regards to the initial action plan that could be undertaken in order to make NUTS methodology work in Georgia.

Introduction to NUTS Nomenclature

The NUTS classification of regional units is an attempt to present statistical information for standard sets of geographical areas across the whole of the European Union rather than proposition for each country within the EU to discard its own locally established regional units (which may have deep historical roots and be intrinsically related to the organisation of local government.

The key purpose of the NUTS classification is to provide a framework for the collection and publication of standardised statistical information, which is used both for analysis and as the framework for European policy initiatives.

National figures alone cannot reveal the full and sometimes complex picture of what is happening at a more detailed level within the European Union. In this respect, statistical information at a subnational level is an important tool for highlighting specific regional and territorial aspects. It helps analyse changing patterns and the impact that policy decisions can have on a daily life.

Sound regional policy requires that regions are well defined. Region's boundaries should be acceptable for the people living there. Also, each region should feature suitable size (to reach some sort of critical mass, also for statistical purposes) and be ideally homogenous. NUTS methodology seeks to avoid the use of geographical areas which have only one purpose or are related to only one type of economic activity. A consequence of this approach is that there may be significant variation between the size and nature of NUTS regions at the same level, both within and between countries. In this context, each EU country has a different way of dividing its territory into administrative units with the purpose of:

- Collection, development and harmonisation of European regional statistics
- Socio-economic analyses of the regions
- Framing regional development policies and level of state aid.

Despite countries have a different set of a regional breakdown, Eurostat aim at using the same structures/regions, because this supports data availability and policy implementation capacity, particularly if they are administrative. That means that we encourage the countries to report to us NUTS regions which exist nationally as well in the administrative structure of the countries.

The Nomenclature provides for benchmarking, monitoring and evaluation of development policies and is used in the EU, European Economic Area (EEA), European Free Trade Association (EFTA) and countries in accession. The NUTS classification subdivides the economic territory of the EU Member States into territorial units (regions), whereby the following principles apply: (a) The NUTS classification includes three hierarchical levels: each member state is divided into NUTS 1 regions, which in turn are

subdivided into NUTS 2 regions and then divided further into NUTS 3 regions. Each of these regions is allocated a specific code and name.

- o NUTS 1: major socio-economic regions
- o NUTS 2: basic regions for the application of regional policies
- o NUTS 3: small regions for specific diagnoses, including intra-regional status quo featuring aspects such as urban-rural typology, metropolitan characteristics, coastal and non-coastal (e.g. mountainous) territories.

The table below outlines the population thresholds currently applicable to each NUTS level:

NUTS Level	Minimum Population	Maximum Population
NUTS 1	3,000,000	7,000,000
NUTS 2	800,000	3,000,000
NUTS 3	150,000	800,000

Below NUTS 3 level some statistics is also collected on the level of Local Administrative Units (previously referred to as NUTS level 4 and 5). The LAUs are building blocks of the NUTS and represent municipalities and communes although these levels have not been defined for each and every member country of the EU.

NUTS 3 regions should comprise single NUTS 2 unit. And NUTS 2 regions build single NUTS 1 level and the borders of each NUTS levels coincides to each other. If, for a given level in the classification, there is no existing administrative level of an adequate size in an EU country, that level is to be established by aggregating an adequate number of smaller neighbouring administrative units.

NUTS demarcation has no specific effect on policy development or implementation except of the allocation of funds under EU cohesion policy. NUTS units are of purely statistical character. There can be several NUTS 2 units in one autonomous region or more than one NUTS 3 unit in a single self-governing region. The level of development of a NUTS 2 region determines financial envelope to support the region's socio-economic growth EU cohesion policy defines three categories of regions at NUTS 2 level to be supported by the policy on the basis of their level of GDP per capita: less developed regions, transition regions and more developed regions. Based on these categories different co-financing rules for implementation of the programmes are applied: less developed regions are entitled to highest co-financing rate from ERDF and ESF. Also, GDP per capita of NUTS 2 regions is the main basis for calculating regional aid intensities in accordance with rules set by the Regional Aid Guidelines. GDP is the most important, however there are also other cohesion policy indicators (https://ec.europa.eu/eurostat/web/cohesion-policy-indicators/cohesion-indicators. The commission proposal on cohesion policy depends on the negotiations in the Council and in the Parliament. Also, NUTS 2 level is the cornerstone of the design, development, implementation, monitoring and evaluation of EU cohesion policy.

For the implementation of the cohesion policy it is important to have reliable statistical data. Statistical indicators are used to define the territories relevant for the implementation of the specific policy measures. Mostly, Gross Domestic Product (GDP) per capita is used for this purpose.

At the beginning of the 1970s, Eurostat set up the NUTS classification as a single, coherent system for dividing up the EU's territory in order to produce regional statistics for the Community. For around thirty years, implementation and updating of the NUTS classification was managed under a series of "gentlemen's agreements" between the member states and Eurostat. Work on the Commission Regulation (EC) No 1059/2003, which gave NUTS a legal status, started in 2000. This was adopted in May 2003 and entered into force in July 2003.

The regulation also provides for stability of the classification for at least three years. Stability makes sure that data refers to the same regional unit for a certain period of time. This is crucial for statistics, particularly for time-series. However, sometimes national interests require changing the regional breakdown of a country. When this happens, the concerned country informs the European Commission about the changes. The Commission in turn amends the classification at the end of period of stability according the rules of the NUTS Regulation. The NUTS classification can be amended, but generally not more frequently than every three years. The amendments are usually based on changes

of the territorial structure in one or more member states. In case of a reorganisation of the administrative structure of a country, amendments to the NUTS may be adopted at intervals of less than three years. This has only happened once so far, in 2014 in Portugal.

Country Experiences

The current NUTS 2016 classification is valid from 1 January 2018 and lists 104 regions at NUTS 1, 281 regions at NUTS 2 and 1348 regions at NUTS 3 level. All EU member states should follow NUTS methodology and collect data for each NUTS level according to the Eurostat's Compendium.

There can be exceptions for some countries, but this is prescribed in the Compendium, since there are data gaps in some countries towards some indicators. A similar statistical system is defined for the candidate countries and members of EFTA, but they are not part of NUTS governed by the regulations. Even non-EU member countries, **Turkey** and **Serbia** have partially introduced NUTS in their statistical systems.

There are different types of NUTS 2 regions in EU. NUTS 2 can represent an individual administrative region that is frequently self-governed, a city or a part of a large city, all depending on the population size. For example, **Poland** is administratively sub-divided into 16 self-governed regions and until 2018 all those regions were also NUTS 2 units. **Austria** is constitutionally sub-divided into 9 lands and all of them are at the same time NUTS 2 regions. **Germany** features lands that are NUTS 2 units however since the size of some of them is large, those lands are frequently sub-divided into several NUTS 2 units (while the land itself remains a NUTS 1 unit). Sometimes, cities represent a single NUTS 2 territory, e.g. Hamburg or Hannover. **Sweden** features statistical regions that do not correspond to the borders of the lands. In the **United Kingdom**, the city of London is sub-divided into 5 NUTS 2 units. **Slovenia** is sub-divided into NUTS 2 units that do not have any corresponding administrative structures.

A special case on NUTS 2 subdivision can consider **Croatia**. During pre-accession negotiations for the Chapter 22 Regional policy and coordination of structural instruments, the introduction of NUTS classification in **Croatia has been one of the conditions that the country was required to satisfy.** With 4.3 million population at the time Croatia as a whole was considered a NUTS 1 unit. Regional administrative units called counties had an average population size of 211 thousand and therefore satisfied conditions for the NUTS 3 level.

Having in mind there were no administrative territorial units that corresponded to NUTS 2 level, the biggest issue was how to define the NUTS 2 units. After a long political debate and discussion with Eurostat, a decision was reached in 2007, according to which Croatia has been divided into 3 NUTS 2 units. **However, this division was changed in 2012, just a year before the accession (map below)**.

Continental Croatia
Pop.: 2,960,157
GDP per capita. = 64.1% EU-27

Adriatic Croatia
Pop.: 1,468,921
GDP per capita = 62.1% EU-27

Source: Eurostat

The reason was that one of NUTS 2 regions called North-western Croatia surpassed the 75% of the EU-27 average GDP per capita threshold. This meant that after accession, this region would not be eligible for most favourable conditions of funding within the framework of cohesion policy. Instead of falling into category "less-developed regions", the region would be classified as so called "transition region" with less co-financing from EU funds and other less favourable conditions e.g. the level of state aid. The main reason for higher GDP per capita of this unit was the inclusion of the capital city of Zagreb.

A new classification in 2012 merged two NUTS 2 in the continental part into a single unit with GDP per capita at 61% of the EU average, thus allowing the both NUTS 2 units to be classified as less developed regions and tap into more funding opportunities from the EU cohesion policy.

This division was changed again in 2019 when new circumstances allowed to form a NUTS 2 unit consisting solely from the city of Zagreb. This was since the city of Zagreb surpassed 800,000 inhabitants in 2017 (due to in-migration) and therefore could now become a stand-alone NUTS 2 entity. Hence, according to the latest classification, NUTS1 is the whole Croatia, there are 4 NUTS 2 regions (City of Zagreb, Northern Croatia, Central and Eastern (Panonian) Croatia and Adriatic Croatia) and 21 NUTS 3 units (Counties). Municipalities and cities represent LAU level.

NUTS 2 units	Population (number)	Population (%)	Average GDP per capita in PPS 2014-2016 (EU-27=100)
City of Zagreb	800.674	19,0	104,84
Central and Eastern (Panonian) Croatia	1.166.287	27,7	40,69
Adriatic Croatia	1.398.260	33,2	57,40
Northern Croatia (NUTS 2)	842.773	20,0	47,12
Croatia (NUTS 1)	4.207.994	100,0	62,3

Source: Proposal for new NUTS 2 classification in Republic of Croatia (IRMO, 2019),

Portugal was divided in 1986 when country joined EEC. In the beginning there were 3 NUTS 1 – Mainland and 2 Autonomous Regions, 7 NUTS 2 – 5 planning regions in mainland + 2 Autonomous Regions and 29 NUTS 3 – 27 units in mainland + 2 Autonomous Regions. Since this, there were several minor changes (e.g. change of municipalities on the regions limits from one region to the other). For example, change of NUTS 2 boundary of Lisbon and Tagus Valley in 2002; and change of NUTS 3 in 2013 to match administrative regions of 21 inter-municipal associations and 2 metropolitan areas in mainland.

Source: Duarte Rodrigues, Presentation for Workshop on prospects of statistical division of Georgia in line with NUTS Eurostat methodology

Population data on NUTS units show that the population size of some NUTS units is below the thresholds set by the NUTS Regulation. There are several reasons for that. One reason is that the regulation allows departures from the threshold of individual units in cases when they represent administrative units. However, in that case the average population size of all NUTS units within the given category has

to be in line with the thresholds. So, for example, it is possible to have one or more NUTS 3 units with population less than 150 thousand, but the average size of NUTS 3 units has to be within the thresholds, i.e. between 150 and 800 thousand inhabitants. Also, according the Regulation, some non-administrative units may, however, deviate from those thresholds because of geographical, socioeconomic, historical, cultural or environmental circumstances, especially in the islands and the outermost regions.

Non-compliance is also because in the "older" EU countries the NUTS Regulation from 2003 accepted departures from the thresholds that had been agreed in previous times between member states and Eurostat (so-called "gentlemen agreement").

Territorial Typologies

In order to provide a more detailed picture of the diverse EU territories and to provide better analytical basis for EU and national policies dealing with specific territories, Eurostat has developed a range of statistics based on different classifications and typologies. These include data for regions, cities and greater cities, metropolitan regions, rural areas and regions, specific geographies such as coastal regions, mountain regions, border regions or island regions, etc.

According to the Regulation, following typologies shall be established at LAU level:

(a) degree of urbanization (DEGURBA): "Urban areas", "Cities" or "Densely populated areas", "Towns and suburbs" or "Intermediate density areas", "Rural areas" or "Thinly populated areas"
(b) functional urban areas: "Cities" plus their "Commuting zones"
(c) coastal areas: "Coastal areas", "Non-coastal areas".

The following typologies and labels shall be established at NUTS level 3:

(a) urban-rural typology: "Predominantly urban regions", "Intermediate regions", "Predominantly rural regions"
(b) metropolitan typology: "Metropolitan regions", "Non-metropolitan regions".
(c) coastal typology: "Coastal regions", "Non-coastal regions".

Regional Development Policy in Georgia

Administratively, Georgia is divided into 13 administrative and statistical "regions". If we exclude Tbilisi, Adjara AR, Abkhazeti AR Tskhinvali, there are 9 administrative regions supervised by State Representative. Each State Representative supervises different municipalities. Tbilisi, Adjara AR and Abkhazeti AR have their own government. Regions are different regarding territorial, social and economic characteristics.

Regional policy is implemented within the framework of the Regional Development Programme for the years 2018-2021. RDP 2018-2021 is a medium-term government strategy and action plan setting out main goals and interventions of Georgia's territorial development, as below:

- Contribution to economic development of the country by using potential of all regions according to their specific potentials
- Increasing social equality and job opportunities for development for all citizens, regardless where they live
- Promoting sustainable environmentally and spatially balanced development of the country.

The objective of the country's regional policy is to reduce differences in the level of economic and social development between regions. RDP enables the implementation of regional development policy in all regions in order to support economic development, job creation, business competitiveness, social

equality and sustainable development. RDP 2018-2021 provides financial support to targeted regions to overcome key problems that they are facing.

Socio-economic and Territorial Disparities in Georgia Report (2017) exhibits that Georgia is a very monocentric country. There is a huge disparity between the capital city and other urban areas not only with regards to the number of population but also to the size of economy, income, quality and access to basic utility infrastructure. By January 1, 2019 approx. 31% of country's population lived in Tbilisi. By 2017, half of the GDP was produced in Tbilisi, 71% of total business turnover and 62% of total business employment were attributable to Tbilisi companies. In 2018, 82% of Foreign Direct Investments was realised in enterprises registered in the capital city. Referring to GDP per capita, by 2017 it was approx. 1.7 times higher in Tbilisi than in the second richest region Adjara AR.

Since Georgia does not feature NUTS 2 regions or equivalent units, the analysis of regional disparities was conducted on the basis of the existing administrative division that partially corresponds to NUTS 3 units in the European Union (which somewhat could represent intra-regional disparities).

Following the adoption of RDP 2018-2021 a Pilot Integrated Regional Development Programme was developed, which aims at ensuring more effective coordination and coherence between various sectoral interventions and territorial features of the four focal regions of Georgia, being Guria, Imereti, Kakheti, Racha Lechkhumi and Zemo Svaneti.

PIRDP, which will be co-financed by the European Union has a clear pilot and demonstration role – it will allow Georgia to practice implementation of regional policy according to EU best practice involving governorates, local administration, civil society organisations, private sector and other groups of stakeholders into multi-level governance decision-making and implementation system.

PIRDP regions are not a benchmark for the typical size of NUTS 2 regions, which are the main regional units under EU cohesion policy. Size-wise, only Imereti and Kakheti fall into NUTS 3 criteria. The other two regions are much smaller. However, taking into consideration the actual size of Georgia, PIRDP concentration on NUTS3 equivalent and LAU levels could further enhance diagnosis of each region, data collection and guide possible adoption of NUTS classification in Georgia and data collection methodology.

Georgia needs systematic and reliable regional statistics for the formulation, implementation and monitoring of regional development policies, their measures and individual interventions. Certain gaps in this regard were preliminarily identified during the work on *Socio-economic and Territorial Disparities in Georgia Report (2017)*. These gaps are examined further in this paper. For that, appropriate sub-division of the country into statistical regions based on good EU practice is required to improve data collection methodologies and their future harmonisation and comparability.

NUTS Scenarios and Recommendations

In this Section, four (4) options out of 5 original scenarios for Georgia's sub-division into NUTS are recommended. The following overarching assumptions and principles were applied when producing those scenarios:

- Georgia should be one NUTS 1 unit.
- Since there are no administrative units in Georgia that would correspond to NUTS level 2, the proposal for the establishment of non-administrative regions at NUTS level 2 needed to be elaborated. There was a same experience in Croatia. As mentioned above, in Crotia there were no administrative territorial units that corresponded to NUTS 2 level, the biggest issue was how to define the NUTS 2 units.
- Although earlier discussion considered amalgamation of the capital city with adjacent regions for NUTS 2 delineation, **having in mind the dominant position of Tbilisi in comparison to the rest of the regions, the most appropriate solution is to have the capital as an individual NUTS 2 unit**. Such approach is also backed by the experience of some EU member states (although such move was undertaken chiefly due to funds from cohesion policy). The rest of

the country could be sub-divided into additional two NUTS 2 units (three in total) due to geo-graphical reasons and for the sake of the regional population balance.

- On the NUTS 3 level, division should follow as much as possible division on administrative, i.e. normative regions and avoid disregarding the existing administrative division. This would render collection of data very difficult. Also, for the needs of national regional policy it would be more useful to have NUTS 3 units defined as closely as possible to the existing administrative division
- Proposing new statistical territorial organisation has been avoided as the introduction of new changes could delay the whole process of application of NUTS methodology.
- Consideration has been given to existing economic homogeneity, physiognomic characteristics of a region, central place criterion and historical tradition.

The table below presents the population numbers in each Georgian region and application to NUTS relevant level.

Region	Population ('000), 2018	GDP per capita (GEL), 2018
Tbilisi	1,164.9	17,224
Adjara AR	347.7	10,042
Guria	110.0	5,923
Imereti	502.2	7,143
Kakheti	313.6	6,434
Mtskheta-Mtianeti	93.8	9,943
Racha-Lechkhumi and Kvemo Svaneti	30.0	7,138
Samegrelo-Zemo Svaneti	318.5	6,492
Samtskhe-Javakheti	155.0	7,742
Kvemo Kartli	432.7	7,025
Shida Kartli	258.3	5,861
Georgia	**3,726.5**	**11,968**

Taking into consideration the current administrative (normative) division of the country, demography, geographical location, social-economic situations as well as data availability, four options (or scenarios) of the NUTS sub-division of Georgia have been elaborated. Surely, more options can be deliberated (as it was the case of internal expert discussion) but in the opinion of the authors the ones presented in this document are most appropriate. At this junction, LAUs are not identified. However, each existing small "region" can be considered as a LAU. All maps are courtesy to Geostat.

Option 1

NUTS 1	NUTS 2	Popula-tion ('000) 2018*	GDP per capita, (GEL), 2018	NUTS 3	Normative Regions	Popula-tion ('000) 2018	GDP per capita, GEL, 2018
Georgia	Southwest-ern, Coastal and Moun-tainous Geor-gia	1,463.4	7,662	Western Costal and Moun-tainous Georgia	Adjara AR, Guria and Samegrelo-Zemo Svaneti	776.1	8,002
				Central and South-ern Georgia	Samtskhe-Ja-vakheti, Imereti and Racha-Lechkhumi and Kvemo Svaneti	687.2	7,278

	Eastern Georgia	1,098.3	6,831	Kartli	Kvemo Kartli and Shida Kartli	691	6,589
				North-eastern Georgia	Mtskheta-Mti-aneti and Kakheti	407.3	7,242
	Tbilisi	1,164.9	17,224	Tbilisi	Tbilisi	1,164.9	17,224

The relevant NUTS 2 regions in Option 1 are illustrated in the map below:

The corresponding NUTS 3 units are depicted in the map below:

Option 2

NUTS 1	NUTS 2	Popula-tion ('000) 2018	GDP per capita, GEL, 2018	NUTS 3	Normative Regions	Popula-tion ('000) 2018	GDP per capita, GEL, 2018
Georgia	Southwest-ern, Coastal and Moun-tainous Georgia	1,463.4	7,662	North Costal Moun-tainous Georgia	Samegrelo-Zemo Svaneti	318.5	6,492
				South Coastal Moun-tainous Georgia	Samtskhe-Ja-vakheti, Guria, Adjara AR	612.7	8,721
				North Central Georgia	Imereti and Racha-Lechkhumi and Kvemo Svaneti	532.2	7,142
	Eastern Georgia	1,098.3	6,831	North-eastern Georgia	Mtskheta-Mti-aneti and Kakheti	407.3	7,242
				Kartli	Kvemo Kartli and Shida Kartli	691	6,589
	Tbilisi	1,164.9	17,224	Tbilisi	Tbilisi	1,164.9	17,224

* (in thousands)

The relevant NUTS 2 regions presented in Option 2 are illustrated in the map below:

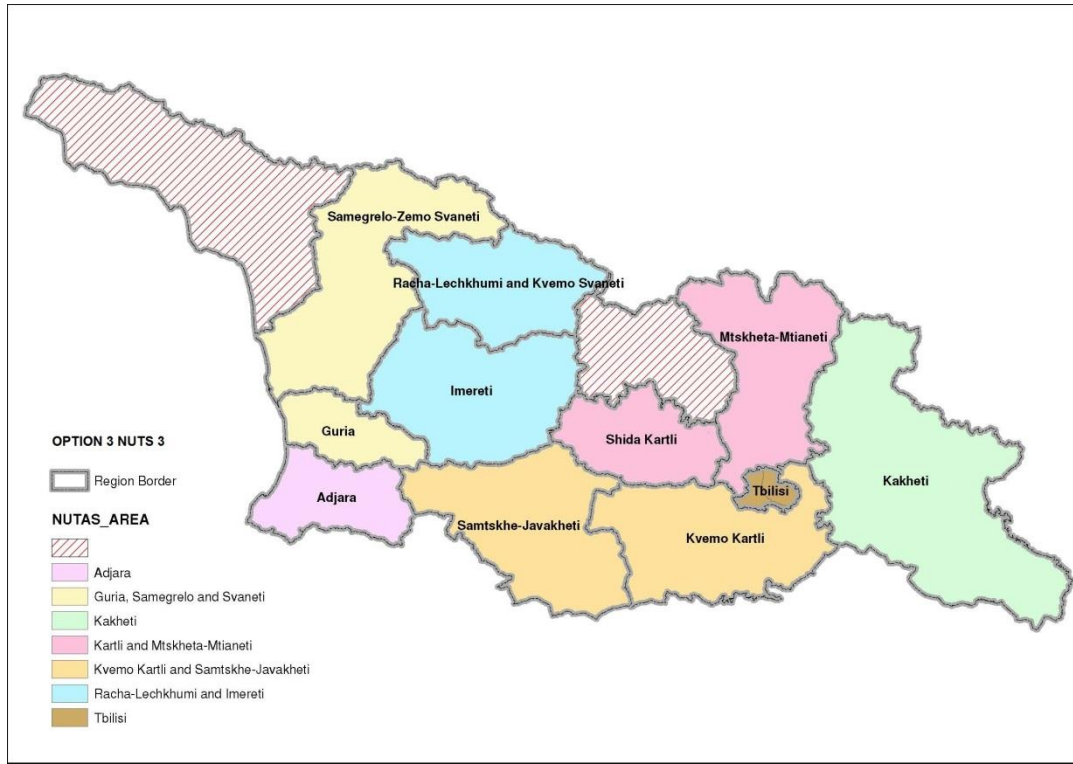The corresponding NUTS 3 units are depicted in the map below:

NUTS 1	NUTS 2	Popula-tion, ('000) 2018	GDP per capita, GEL, 2018	NUTS 3	Normative Regions	Popula-tion ('000) 2018	GDP per capita, GEL, 2018
Georgia	Western Georgia	1,308.3	7,652	Adjara	Adjara AR	347.7	10042
				Guria, Samegrelo Zemo Svaneti	Guria and Samegrelo Zemo Svaneti	428.5	6,346
				Imereti and Ra-cha-Lechkhumi	Imereti and Racha-Lechkhumi and Kvemo Svaneti	532.2	7,142
	Eastern Georgia	1,253.3	6,944	Kartli and Mtskheta Mtianeti	Shida Kartli and Mtskheta Mtianeti	352	6,948
				Kakheti	Kakheti	313.6	6,434
				Kvemo Kartli and Samtskhe Javakheti	Kvemo Kartli and Samtskhe Javakheti	587.7	7,214
	Tbilisi	1,164.9	17,224	Tbilisi	Tbilisi	1,164.9	17,224

The relevant NUTS 2 regions presented in Option 3 and corresponding NUTS 3 units are illustrated in the maps below:

Option 4

One more additional option for NUTS 3 regions will be to divide the country according to existing normative regions and not to combine neighbouring regions. According to this option, NUTS 3 regions would entirely correspond to the existing administrative regions (except for combining Imereti with Racha-Lechkhumi and Kvemo Svaneti, which is superficial due to methodology of data collection in the small Racha Lechkhumi and Kvemo Svaneti region). NUTS regulation allows it, since the average number of inhabitants would be 372.6 thousand, which is within the thresholds for NUTS 3.

NUTS 1	NUTS 2	Population, ('000) 2018	GDP per capita, GEL, 2018	NUTS 3	Normative Regions	Population, ('000) 2018	GDP per capita, GEL, 2018
Georgia	Western Georgia	1,308.3	7,652	Adjara	Adjara AR	347.7	10,042
				Guria	Guria	110	5,923
				Samegrelo Zemo Svaneti	Samegrelo Zemo Svaneti	318.5	6,492
				Imereti Racha-Lechkhumi and Kvemo Svaneti	Imereti Racha-Lechkhumi and Kvemo Svaneti	532.2	7,142
	Eastern Georgia	1,253.3	6,944	Shida Kartli	Shida Kartli	258.3	5,861
				Mtskheta Mtianeti	Mtskheta Mtianeti	93.8	9,943
				Kakheti	Kakheti	313.6	6,434
				Kvemo Kartli	Kvemo Kartli	432.7	7,025

				Samtskhe Javakheti	Samtskhe Javakheti	155	7,742
	Tbilisi	1,164.9	17,224	Tbilisi	Tbilisi	1,164.9	17,224

As already mentioned, one of the key driving principles for NUTS 2 sub-division of Georgia was having Tbilisi as an individual unit rather amalgamating it with Eastern Georgia (and thus opting for only 2 NUTS 2 regions). Such solution was considered among 5 scenarios worked out for the purpose of this study. This would however create a superficial east-west divide due to the size and significance of the capital city and would not reflect the real and similar socio-economic conditions in the west and east of the country. Therefore, the sub-division of Georgia into two NUTS 2 regions is not proposed.

In each option presented herewith, small existing regions can be proposed as LAUs. In this case, there would be several LAUs.

From options presented above, the option 3 and option 4 are more appropriate for Georgia taking into consideration the following observations listed below:

Option 3:

- Eastern-Western division of Georgia by NUTS 2 in the given way is the most relevant approach, since Western Georgia historically covers Adjara, Guria, Samegrelo and Zemo Svaneti, Imereti, Racha-Lechkhumi and Kvemo Svaneti. Same refers to Eastern Georgia. This non-administrative division of the country has always been widely used. Now, it will be statistical non-administrative regions.
- Preferably, Adjara, as Autonomous Republic should be established as a separate NUTS 3 and not be merged with other regions.
- Samtskhe-Javakheti and Racha-Lechkumi and Kvemo Svaneti are regions with different challenges by ethnicity of the population; the also feature different climates and whether patterns. Besides, these two regions are not directly connected by road. This is advantage of option 3 over option 1.
- Samtskhe-Javakheti, Guria and Adjara AR also have different challenges with regards to climatic conditions and ethnicity of the population. This makes option 3 better than proposed option 2.
- Despite Mtskheta-Mtianeti and Kakheti being bordering territories, there is not an active road connection between these regions, and it is inappropriate to merge them into a single NUTS 3 unit, as it is suggested by option 1 and option 2;
- As it is suggested in option 3, it could be more reasonable to combine Shida Kartli and Mtsketa-Mtianeti since these regions are reasonably connected.
- Also, Kvemo Kartli and Samtskhe-Javakheti could be merged into one NUTS 3 not only because they feature reasonable road connections between but also because both are regions border other countries and are populated by similar mix of ethnic minorities.

Option 4:

As in case of option 3, Eastern-Western division of Georgia by NUTS 2 in the given way is the most relevant approach, since Western Georgia historically covers Adjara, Guria, Samegrelo and Zemo Svaneti, Imereti, Racha-Lechkhumi and Kvemo Svaneti. Same refers to Eastern Georgia. This non-administrative division of the country has always been widely used. Now, it will be statistical non-administrative regions.

Option 4 divides Georgia by 3 NUTS 2 and 9 NUTS units. This option appears to be the most practical and policy relevant since all existing regions will be represented as independent NUTS 3. First of all this fully suits to the existing administrative division of the country and its management as well as corresponds to the production of regional statistics in Georgia. In case of such division, there will be no need of merge of ongoing statistical surveys of Geostat at NUTS 3 level or the merge of the results of these survey. All efforts of Geostat will be devoted to the methodological improvement, data coverage and the improvement of the quality of statistical data.

Besides, in case of such division, some regions would be below of population threshold of NUTS 3, however the average size of NUTS 3 by population will be within thresholds as it was in Croatia. As mentioned above, during Croatia's accession to EU, the regional administrative units called counties had an average population size of 211 thousand and therefore satisfied conditions for the NUTS 3 level.

In addition, as mentioned above, taking into consideration that Eurostat encourage countries to report NUTS regions which coincides with administrative structure of the country, the option 4 is more likely to be the most relevant. This will better enable data availability and policy implementation capacity. The experience of Lithuania shown in the next chapter, is a good example.

It also sould be taken into consideration that the regional policy of Georgia has been concentered on such division. There are regional strategies, some studies, assessments, reports focusing current administrative division of the country. Therefore, the harmonization of NUTS 3 levels with current administrative division has many opportunities, which need to be taken into account.

Benchmarking with Lithuania

Lithuania has been selected to compare with NUTS options picked for Georgia since the country has similar number of population and size (2.8 million and 65 thousand km^2).

Territorial administrative units of the Republic of Lithuania consist of 10 counties and 60 municipalities. The county is a higher administrative unit, formed from several municipalities characterised by common social, economic and ethno-cultural features. Due to population numbers, Lithuania could be a single NUTS 2 unit but in fact it is divided into two NUTS 2 regions: Capital Region with 0.8 million and Central and Western Lithuania with almost 1.9 million inhabitants. There are 10 NUTS 3 units: Vilnius and 9 counties, and 60 LAUs.
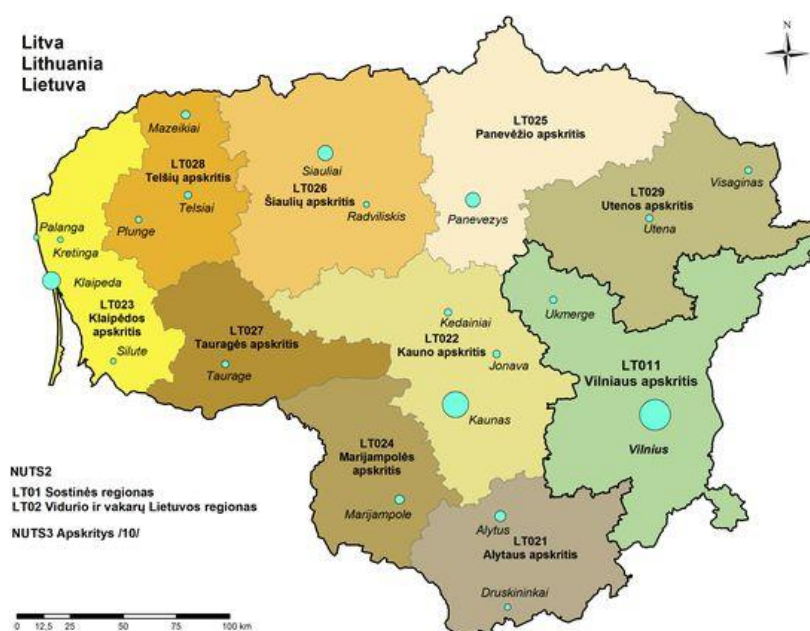
Source: Czech Statistical Office

The table below compares administrative division of Georgia (regions) and Lithuania (counties) in terms of population numbers. Capital regions are excluded from the table. In 2019 population of Tbilisi was almost 1.2 million and population of Vilnius was slightly above 0.8 million.

	Regions	Average population per region ('000)	Maximum population in region ('000)	Minimum population in region ('000)

Lithuania	9	210.0	561.5	92.6
Georgia*	11	255.2	497.4	29.7

*Average population in Georgia's regions was calculated without Abkhazeti AR, since data on population is not available
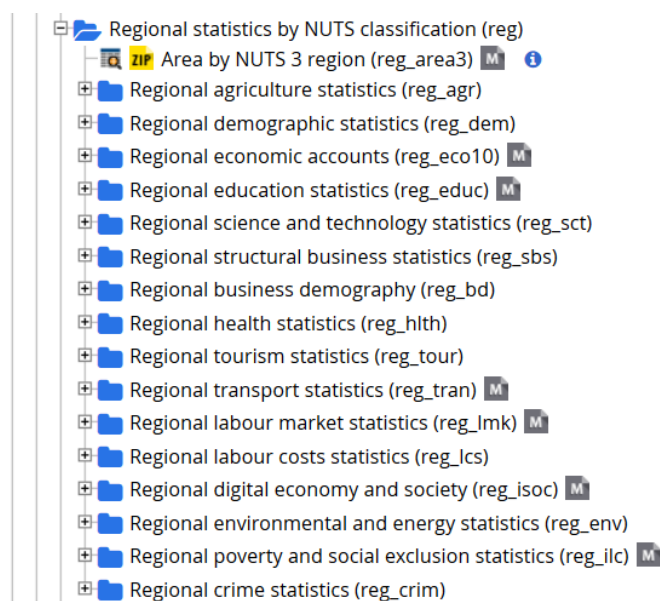
In the previous chapter, 4 different options of possible division of Georgia by NUTS classification were presented. For comparison with Lithuania, option 4 was used. In case of Georgia, the population number is as of January 1 of 2019.

	NUTS 1	NUTS 2			NUTS 3 number	NUTS 3 population ('000)		
Lithuania	2,848	Capital	Central and Western Lithuania		10	Average	Minimum	Maximum
		805	2 043			285	99	805
Georgia (option 3)	3,723.5	Eastern	Western	Tbilisi	10	372.6	93.8	1,164.9
		1,253.3	1,308.3	1,164.9				

Lithuanian experience demonstrates that NUTS 3 level boundaries coincide with the existing regional and administrative division of the country. As in the case of most of the EU member states, the capital city is an independent NUTS 2 and NUTS 3 unit. Even though there are differences between population numbers across NUTS units (since Georgia has more inhabitants than Lithuania and some Georgian regions are bigger than Lithuanian counties in terms of their size), the Lithuanian experience is the most appropriate case to be adopted in Georgia, which is reflected in suggested option 4.

Availability of Statistical Data

For conducting an effective and evidence-based regional development policy, there is a need for reliable statistical data. The key benchmark of what is required is Eurostat NUTS data base, which covers e.g. regional economic accounts, demographic statistics, agricultural statistics, education statistics, data on science and technology, business statistics, business demography, health statistics, tourism statistics, transport statistics, labour market data, labour cost statistics, digital economy and society, environmental and energy statistics, poverty and social exclusion, crime statistics, etc. Indeed, there are 16 different databases under Eurostat regional statistics by NUTS classification and more than 300 indicators (https://ec.europa.eu/eurostat/web/regions/data/database).

Regional statistics by NUTS classification (reg)
    Area by NUTS 3 region (reg_area3)
    Regional agriculture statistics (reg_agr)
    Regional demographic statistics (reg_dem)
    Regional economic accounts (reg_eco10)
    Regional education statistics (reg_educ)
    Regional science and technology statistics (reg_sct)
    Regional structural business statistics (reg_sbs)
    Regional business demography (reg_bd)
    Regional health statistics (reg_hlth)
    Regional tourism statistics (reg_tour)
    Regional transport statistics (reg_tran)
    Regional labour market statistics (reg_lmk)
    Regional labour costs statistics (reg_lcs)
    Regional digital economy and society (reg_isoc)
    Regional environmental and energy statistics (reg_env)
    Regional poverty and social exclusion statistics (reg_ilc)
    Regional crime statistics (reg_crim)

While discussing data availability, it should be mentioned that Eurostat is not receiving all the datasets from all countries. There are quite some exceptions and gaps in the data collections, which Eurostat tries to reduce over time.

Despite several reforms of the system of official statistics in Georgia, there is still lack of some regional data e.g. on competitiveness, trade, demography, migrations, agriculture, innovation and technology, tourism, infrastructure (including transport), labour market, crime etc. And the main purpose of this chapter is to identify gaps between data sets commonly used in the EU and those available in Georgia. Below, 2 Eurostat data bases are presented (Regional Economic Accounts and Regional Agriculture Statistics) with brief commentary on the availability of the relevant indicators in Georgia:

Regional Economic Accounts

GDP indicators	GDP at current market prices by NUTS 2 regions **(available)**
	Average annual population to calculate regional GDP data (thousand persons) by NUTS 3 regions **(available)**
	GDP at current market prices by NUTS 3 regions **(available)**
	Real growth rate of regional gross value added (GVA) at basic prices by NUTS 2 regions - percentage change on previous year **(not available)**
Branch and household accounts	Gross value added at basic prices by NUTS 3 regions **(available)**
	Gross fixed capital formation by NUTS 2 regions **(not available)**
	Compensation of employees by NUTS 2 regions **(available)**
	Employment (thousand persons) by NUTS 3 regions **(available)**
	Employment (thousand hours worked) by NUTS 2 regions **(not available)**
	Income of households by NUTS 2 regions **(partially available)**

Regional Agriculture Statistics

Agri-environmental indicators	Estimated soil erosion by water, by NUTS 3 regions **(not available)**	

	Manure storage facilities by NUTS 3 regions **(not available)**	
Structure of agri-cultural holdings	Key farm variables	Key farm variables: area, livestock, labour force and standard output by agricultural size of farm, legal status of holding and NUTS 2 regions **(not available)**
		Key variables: area, livestock, labour force and standard output by economic size of farm (in Euro), legal status of holding and NUTS 2 re-gions **(not available)**
		Key variables: area, livestock, labour force and standard output by type of farming (2-digit) and NUTS 2 regions **(partially available)**
	Farmland use – permanent crops, other farmland, irri-gation	Land use: number of farms and areas of differ-ent crops by agricultural size of farm and NUTS 2 regions **(mostly available)**
		Land use: number of farms and areas of differ-ent crops by economic size of farm (in Euro) and NUTS 2 regions **(partially available)**
		Permanent crops: number of farms and areas by size of permanent crop area and NUTS 2 re-gions **(mostly available)**
		Irrigation: number of farms, areas and equip-ment by size of irrigated area and NUTS 2 re-gions **(partially available)**
	Overview – farm livestock	Livestock: number of farms and heads of animals of different types by agricultural size of farm and NUTS 2 regions **(not available)**
		Livestock: number of farms and heads of ani-mals by livestock units of farm and NUTS 2 re-gions **(not available)**
		Livestock: number of farms and heads of ani-mals by economic size of farm (in Euro) and NUTS 2 regions **(not available)**
	Farm labour force and management	Labour force: number of persons and farm work by sex of workers and NUTS 2 regions **(not available)**
		Organic farming: number of farms, areas with different crops and heads of different types of animals by agricultural size of farm and NUTS 2 regions **(not available)**
		Type of tenure: number of farms and areas by agricultural size of farm and NUTS 2 regions **(not available)**
		Type of tenure: number of farms and areas by economic size of farm (in Euro) and NUTS 2 re-gions **(partially available)**
Structure of agri-cultural holdings – historical data 1990-2007	Overview of agricultural holdings	Key variables by legal status of holding, size of farm and NUTS 2 regions **(partially available)**
		Key variables by type of farming (2-digit) and NUTS 2 regions (utilized agricultural area) **(not available)**
	Land use	Farmland: number of farms and areas by size of farm and NUTS 2 regions **(mostly available)**

		Farmland: number of farms and areas by economic size of farm and NUTS 2 regions **(mostly available)**
		Permanent crops: number of farms and areas by size of farm, size of permanent crop area and NUTS 2 regions **(mostly available)**
		Irrigation: number of farms, areas and equipment by size of farm and NUTS 2 regions **(partially available)**
	Livestock	Livestock: number of farms and heads by size of farm and NUTS 2 regions **(not available)**
		Livestock: number of farms and heads by livestock units of farm and NUTS 2 regions **(not available)**
		Livestock: number of farms and heads by economic size of farm and NUTS 2 regions **(not available)**
	Special interest topics	Organic farming: selected variables by size of farm and NUTS 2 regions **(not available)**
		Type of tenure: number of farms and areas by size of farm and NUTS 2 regions **(not available)**
		Labour force: number of persons and farm work by sex of worker, category of worker, legal status of holding, size of farm and NUTS 2 regions **(not available)**
		Labour force: number of persons and farm work by sex of worker, category of worker, legal status of holding, economic size of farm and NUTS 2 regions **(not available)**
	Structure of agricultural holdings by region, main indicators	Structure of agricultural holdings by NUTS 3 regions - main indicators (total number of holdings) **(mostly available)**
Agricultural production	Animal populations by NUTS 2 regions **(mostly available)**	
	Production of cow's milk on farms by NUTS 2 regions **(mostly available)**	
Economic accounts for agriculture by NUTS 2 regions (not available)		

The above snapshot shows that more than half of economic accounts and agricultural indicators are not available in Georgia. Out of 43 indicators, only 14 are available or mostly available, 7 indicators are partially available, and 22 indicators are not available. This percentage will be more negative in case of other databases mentioned above. This shows how big effort will be needed for the harmonisation of existing regional statistics of Georgia with Eurostat NUTS requirements.

At present, Geostat produces some annual regional statistics covering regions as well as municipalities. The list of existing main regional statistical data, applicable to each NUTS level is presented below.

National accounts
GDP, GVA, GDP per capita, sectoral breakdown of GDP by major 10 sectors – NUTS 2, NUTS 3 and even at LAU level, if LAU coincides with regions
Business register and business statistics
Number of business enterprises, turnover, production value, value added, intermediate consumption, number of employed and employees, personal costs, salary, purchase of goods and services, investment in fixed assets of/in business sector – NUTS 2, NUTS 3 and even at LAU level, if LAU coincides with regions. All business statistics data is disaggregated by type of ownership and size of enterprises

Foreign Direct Investments (FDI)
NUTS 2, NUTS 3 and even at LAU level, if LAU coincides with regions. For this, additional calculation will be needed. It is also possible at LAU level, but not for all regions and nor sectoral distribution of investments
Industry
Turnover, production value, value added, intermediate consumption, number of employed and employees, personal costs, salary, investment in fixed assets, total purchases of/in industry – NUTS 2, NUTS 3 and even at LAU level, if LAU coincides with regions
Construction
Turnover, production value, value added, intermediate consumption, number of employed and employees, personal costs, salary, investment in fixed assets, total purchases, permissions granted of/in industry - NUTS 2, NUTS 3 and even at LAU level, if LAU coincides with regions
Labour statistics
Employment and unemployment – data production is possible at NUTS 2 as well as NUTS 3 levels. For this, sampling design of survey should be updated, or additional calculation will be needed. It is also possible at LAU level, but not for all regions. Average monthly wages – NUTS 2, NUTS 3 and even at LAU level, if LAU coincides with regions
Agriculture
Production, sown and harvested area as well as average yield of some major annual and permanent crops, including vegetables, fruits, number of livestock and animal production - data production is possible at NUTS 2 as well as NUTS 3 levels. For this, sampling design of survey should be updated, or additional calculation will be needed. It is also possible at LAU level, but not for all regions and not for all crops and livestock
Service areas
Number of hotels and restaurants, turnover, production value, number of employed, number of employees, salary, intermediate consumption, personal costs, value added, investments in fixed assets, purchases of/in hotels and restaurants; turnover, production value, number of employed, number of employees, salary, intermediate consumption, personal costs, value added, investments in fixed assets, purchases of/in trade; turnover, production value, number of employed, number of employees, salary, intermediate consumption, personal costs, value added, investments in fixed assets, purchases of/in transport and communication – NUTS 2, NUTS 3 and even at LAU level, if LAU coincides with regions
Infrastructure
Percentage share of the households provided with electricity and central system of gas supply, distribution of the households by the basic supply sources of the drinking water - data production is possible at NUTS 2 as well as NUTS 3 levels. For this, sampling design of survey should be update, or additional calculation will be needed. It is also possible at LAU level, but not for all regions. Length of international and secondary roads – NUTS 2, NUTS 3 and even at LAU level, if LAU coincides with regions
Social statistics
Average monthly income and expenditure of total population, per household and per capita. Data production is possible at NUTS 2 as well as NUTS 3 levels. For this, sampling design of survey should be updated, or additional calculation will be needed. It is also possible at LAU level, but not for all regions. Number of pensioners, families and persons receiving social assistance – NUTS 2, NUTS 3 and even at LAU level, if LAU coincides with regions. Absolute and relative poverty – NUTS 2, NUTS 3 and even at LAU level, if LAU coincides with regions. However, for this, sampling design of survey should be updated, or additional calculation will be needed
Population and demography
Birth (urban/rural), death (urban/rural), natural increase (urban/rural), infant death (urban/rural), death by age (by sex), causes of death (by sex), stillbirth (urban/rural), marriage (urban/rural), divorce (urban rural), number of population (by sex, urban/rural) – NUTS 2, NUTS 3 and even at LAU level, if LAU coincides with regions
Education
Number of schools, number of pupils, number of high education institutions (state, private), number of vocational institutions (state, private) – NUTS 2, NUTS 3 and even at LAU level, if LAU coincides with regions. All this data is also possible at municipal level. Additional calculation is needed for school drop off, number of students at NUTS 2, NUTS 3 and LAU level
Healthcare

Number of hospitals and medical centres, doctors, nurses, hospital beds, medical institutions rendering out-patient services to population, visits in medical institutions rendering out-patient services to population – NUTS 2, NUTS 3 and even at LAU level, if LAU coincides with regions
Culture
Number of theatres, performances and attendees - Data production is possible at NUTS2 as well as NUTS 3 levels. It is also possible at LAU level, but not for all regions. Number of museums, museum visitors, excursions and exhibitions – NUTS 2, NUTS 3 and even at LAU level, if LAU coincides with regions
Environmental statistics
Forest area, volume of felled timber, illegal logging, forest restoration, forest seeding and planting, natural recovery of forest, capture and emission of hazardous substances generated in stationary sources, number of protected areas, visits in protected areas – NUTS 2, NUTS 3 and even at LAU level, if LAU coincides with regions
Tourism statistics
Monthly average number of visits made by domestic and foreign visitors - data production is possible at NUTS 2 as well as NUTS 3 levels. For this, sampling design of survey should be updated, or additional calculation will be needed. It is also possible at LAU level, but not for all regions. Number of hotels, hotel rooms and visitors – NUTS 2, NUTS 3 and even at LAU level, if LAU coincides with regions.

It should be noted that Georgia conducted General Population Census and Agricultural Census in 2014 and more detailed information on population and demography, households, living conditions, education, disability, migration, agricultural holdings, land, crops, irrigation, livestock, agricultural machinery etc., is available at municipal, urban, rural, even at village and town levels. The Census however provides only a snapshot at the time when it was carried out.

Challenges for Geostat to Produce NUTS Data and Action Plan

The actual introduction of NUTS regional units into local legislation does not automatically mean that the country is required to provide the entire set of indicators to Eurostat or any another agency (it only applies to the EU member states). It can be done through phased approach.

Challenges

During the work on the study, the following issues were discussed with Geostat: 1) potential cost of the introduction of NUTS indicators required for regional agriculture statistics; 2) challenges for Geostat to produce these data. More specifically, the potential of Geostat to produce regional agriculture statistics was assessed. It has been identified that as of today, only a few of NUTS indicators are available under e.g. agricultural statistics. The main source of agricultural statistics is the sample survey of agricultural holdings in Georgia. In EU member states there are some administrative data source indicators or computerised models, e.g. for soil erosion caused by water, where EU countries use the Revise Universal Soil Loss Equation model, which was developed to evaluate soil erosion by water at regional scale. It is based on high quality and peer reviewed published input layers (soil erodibility, rainfall erosivity, topography, land cover and conservation practices). **The use of such model is currently impossible in Georgia, similarly to other tools**.

In other fields, considering the structure of agricultural land and the current survey sampling methodology, it is very difficult or impossible to produce most of the NUTS indicators and ensure their time series. The latter includes an obstacle being limited human resources. There are also some methodological differences between Georgia's agricultural statistics and Eurostat indicators. More specifically, Geostat uses Food and Agriculture Organization of the United Nations (FAO's) methodology in producing agricultural statistics. Besides, there are some indicators which are not produced in Georgia at all. For example, standard output, organic farming. In addition to that, there are some indicators impossible to source from administrative data or requiring sophisticate computer modelling like in the case of soil erosion by water.

To conclude, the discussion with Geostat showed that at present it is impossible to estimate the potential cost of the introduction the full set of NUTS indicators required for regional agriculture statistics or even its time horizon. The cost should be assessed within the technical working group of the MRDI and Geostat. Therefore, in this chapter, the only challenges of Geostat to produce regional agriculture statistics are described.

Action Plan

The Ministry of Regional Development and Infrastructure needs to engage with Geostat in order to produce an action plan for the introduction of NUTS classification in Georgia. Delimitation of the statistical regional units is only the beginning that would inform the planned activities. A horizontal **Steering Group** must be set up between Geostat and MRDI to undertake a stock-taking exercise, mapping the existing data, differences in methodologies used, and establish the gaps. External experts can be invited to join. The Group should then agree on priorities for the introduction of new data sets and coordinate all aspects pertaining to NUTS, including endorsement of one of the recommended options for Georgia (or an alternate option elaborated individually by the Group). At this juncture such priorities could include regional education statistics, science and technology data, transport statistics, labour market and labour cost statistics and environmental and energy statistics - the most important ones from regional competitiveness perspective.

Once the priority data sets have been identified (and potential methodological or measurement gaps) a roadmap for the harmonisation of statistics could be elaborated. Even Eurostat is working on reduction of data gaps at present, since, there are some exceptions and data gaps in some countries. It is difficult to imagine that such roadmap can be developed without participation of Eurostat experts. Therefore, a mission (or several interactions) from (or to) Eurostat will be required. **For each theme or sector** selected as priority, **a Working Group** should be subsequently formed.

The National Strategy for the Development of Statistics in Georgia 2020-2023 provides that the National Statistics Office of Georgia includes **a special measure for NUTS introduction to national statistical system**. According to the strategy, Georgian Statistical System should initiate harmonization studies to fully adopt the up-to-date international methodologies and classifications (including EU NUTS) and Geostat will be involved in the process to oversee the perspectives for NUTS classification use in the national context[1]. **The detailed financial plan for the introduction of NUTS should also be prepared by Geostat.**

Initial indicative Action Plan for NUTS introduction to Georgia is presented in tabulated form below:

Activity	Responsible Agency	Implementation Period		Result/Indicator
		Start date	End date[2]	
Formation of Steering Group with possible external experts	MRDI, Geostat	08/2020	09/2020	Composition of Group agreed
Discussion on different possible NUTS scenarios for Georgia and selection of best scenario	MRDI, Geostat	09/2020	11/2020	NUTS scenarios presented to MRDI management and agreed
Drafting secondary legislation on NUTS (Adoption of new	MRDI, Geostat	10/2020	12/2020	Legislation adopted

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[1] According to EU-Georgia Association Agreement (AA): "The Parties shall develop and strengthen their cooperation on statistical issues, thereby contributing to the long-term objective of providing timely, internationally comparable and reliable statistical data. It is expected that a sustainable, efficient and professionally independent national statistical system shall produce information relevant for citizens, businesses and decision-makers in Georgia and in the EU, enabling them to take informed decisions on this basis. The national statistical system should respect the UN Fundamental Principles of Official Statistics, taking into account the EU acquis in statistics, including the European Statistics Code of Practice, in order to align the national statistical system with the European norms and standards."

[2] The suggested indicative AP/timeline may be affected by the ongoing Covid19 pandemic; indicated deadlines may be subject to delay from three to six months, depending on further safety considerations, stabilization of the current situation and subsequent official recommendations.

classification will require amendments in normative acts of Geostat)				
Priority data needs for proposed NUTS levels[3]	MRDI, Geostat	11/2020	01/2021	The list of data presented to MRDI management and agreed
Formation of Working Groups	MRDI, Geostat, relevant Ministries	01/2020	02/2021	3-4 Working Groups established
Roadmap on NUTS introduction[4]	MRDI, Geostat	03/2021	04/2021	The roadmap presented and agreed
Discussion on plan regarding NUTS harmonisation with Eurostat	Geostat, MRDI	05/2021	09/2021	Missions and/or workshop, Roadmap fine-tuned/confirmed
Detailed financial plan for NUTS introduction and data harmonisation[5]	MRDI, Geostat	10/2021	12/2021	Financial plan presented to MRDI and Geostat management, agreed

Georgia may be able to introduce a fully-fledged NUTS demarcation on its own based on this study paper but it is very unlikely that the country could elaborate the necessary methodologies for the collection of the suitable data sets and subsequently develop the necessary statistics without extensive support either in the form of technical assistance or twinning. For that, the project recommends that appropriate funding is secured for such purpose from ENI financial envelope.

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[3] According and to be reflected in the National Strategy for the Development of Statistics in Georgia 2020-2023 and annual working program of Geostat
[4] TA or donors' support will be needed.
[5] TA or donors' support will be needed.

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