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# The creative process of data gathering and analyzing in Dropull Municipality

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## Abstract

Statistics are very important in enhancing the ability of the government to develop appropriate policies. Trustable statistics such as GDP, income per capita and living conditions, inflation rate, unemployment rate, projection of population, etc. are crucial in monitoring the achievement of national and local development goals. In addition, to guarantee better public services to the society, government both in central and local level should use statistics for finance allocation on land use planning, housing, health care, and providing education facilities. From that perspective, the setting up of information databases on urban and territorial planning represents an indispensable and imperative tool.

This so-called warehouse of microdata brings about the opportunity for the compilation of various statistics which should be used to measure and monitor the achievements related to the objectives of development strategies. While there is no doubt about the role of statistics in the development and monitoring of national and local strategies, when we talk about the production of statistics, availability of microdata is essential. Lack of data is more likely to occur when we refer to small size administrative areas such as local units or municipalities. In this contribute the case study consisting in process of data sources validation focused on demographic indicators and their role in defining the demographic profile of Dropull Municipality will be described.

## Introduction

As Walter Radermacher, (ex DG of Eurostat,2015) mentioned: "Whether we realize it or not, statistics play a decisive and continually growing role in today's society. Independent, impartial and timely data have become a solid part of democracy on our continent. Information requests cover a large area – including data on relatively new domains, such as globalization, well-being, and climate change. The recent financial and economic crisis have also highlighted the need for reliable and trustworthy statistics for the proper functioning of EU economic governance". From that perspective, the setting up of information databases on urban and territorial planning, combining quantitative and qualitative microdata for further analyses, which enable compilation of indicators to measure the achievements of progress, represents

an imperative tool. While there is no doubt about the role of statistics in the development and monitoring of national strategies, when we talk about the production of statistics, availability of microdata is essential. Microdata refers to the data collected or observed from a specific unit of observation (person, household, company) (UN, Statistical commission, 2007). It becomes really difficult to produce statistics when there is a lack of microdata, both observed or administrative one. This situation is more likely to happen when referring to small administrative areas such as local units or municipalities, in terms of population size. In the following paragraphs, the process of data sources validation from the perspective of urban and territorial planning, at Dropull Municipality will be described. As a case study, demographic data both from administrative sources and

population census, are used to describe the process of data estimation to define the size of the resident population as well as the demographic profile of Dropull Municipality. As an introduction, it is useful to mention that the latest territorial administrative reform of 2014, according to which we have a new re-composition of municipalities, does not imply changes in the number of population at the district level, but has brought significant changes in the size of population at the level of municipalities and local units. Therefore, while the population at national and regional levels has declined, the population in the new administrative units is almost doubled, due to the merging of former municipalities with rural areas. This process has been associated at the same time with a multiplication of problems related to the well-management of the natural resources, property and human resources of the new local units.

The performance of the population's size at municipality level over the years follows the same negative trend as the national population stock. Despite the systematic increase of the population in the largest municipalities of Albania, such as Tirana and Durres (mainly due to the migration factor after the 90's), the positive growth rate of population in these municipalities does not offset the population decline in other municipalities (due to migration and emigration factors). The smallest municipalities in Albania in terms of population are the ones called Pustec and Dropull, inhabited mainly by minority population, each of them covering about 0.1 % of the total population. The minority

population also face the same negative growth rate, recording an annual average decline of about 0.6 and 1.6 %. Dropull Municipality, as mentioned above, is inhabited by a Greek population minority. The growth rate of this population was high during the period 1960-1989, with an annual average growth rate of about 14%, while the total population has grown in average over the same period at an annual base estimated around 28%.

After the 1990's, due to the change of political regime in the country and the massive emigration, the population of this area faced a significant decrease estimated for about 60%, while the total population decreased to about 12%.

In addition to the latest territorial reform, the law on territorial planning implies that new municipalities must complete the collection of microdata and the setting-up the databases by 2015, covering all areas, economic, social, and environmental. This ambitious objective is still in place due to the lack of microdata, methodology, and professional skill of municipalities' staff. A similar situation in terms of microdata and statistics is also present in the Dropull Municipality. Therefore, as a first step to proceed with the preparation of the "Analysis and evaluation of the territory's report", it was important to carry out a complex and detailed analysis on the availability and quality of data sources at the municipality level. In doing so, the following data sources were identified:

As mentioned above, there are several data-sources to evaluate the stock's size of the resident population in the Dropull

Demographic indicators	1960	1979	1989	2011*
Albanian total population	1,625,300	2,590,600	3,199,200	2,800,138
Minority total population	44,570	54,687	64,816	52,700
From which, Greek minority	40,404	49,576	58,758	24,243
<b>Inhabitants in Dropull</b>			20,395	8,415**
In % over the minorities	90.65	90.65	90.65	46.00
In % over total population	2.49	1.91	1.84	0.87

Population growth rate			
	1979	1989	2011*
<b>Albanian total population</b>	59%	23%	-12%
<b>Total minorities</b>	23%	19%	-19%
<b>Greek Minority</b>	23%	19%	-59%

Tab. 1 / Demographic indicators of Albanian and minorities population, during 1960-2011

Source: census data, 1960, 1979, 1989, 2011

\*\* estimation according to the weight of Greek minority in Gjirokaster over the total Greek minority

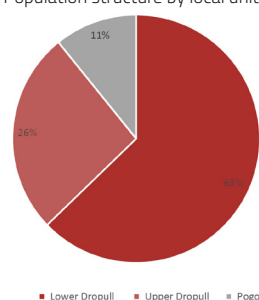
Various estimations of the size of the resident population stock	Source of data	Total population 2015	Population by group-age		
			(0-14)years	(15-64)years	65+years
Official figures	INSTAT <sup>1</sup>	3,301	254	1933	1115
Population according to number of inhabited dwelling	INSTAT+ expert estimation <sup>3</sup>	5,244	383	3005	1855
Population according to number of voters	CEC <sup>2</sup> + expert estimation	7,128	254	5759	1115
Population according to survey	Staff and students	3,182			
Population according to civil status register	civil status register	23,131			

Tab. 2 / Dropull Municipality's population by various data-sources, 2015

<sup>1</sup>INSTAT, statistical office of Albania; <sup>2</sup>CEC, Central election commission; <sup>3</sup>author estimation

Population by local units	Population (in numbers)	
	Year 2011	Year 2015
Lower Dropull	5,283	4,475
Upper Dropull	2,221	1,881
Pogon	910	771
<b>Dropull Municipality</b>	<b>8,415</b>	<b>7,128</b>

Population structure by local units



Tab. 3 / Population by local units for the period 2011 - 2015

Source / Dropull municipality, local election data and evaluation by the author

Municipality, such as:

1. Civil status register (the data are referring to the civil registration related to demographic events but not updated with detailed information related especially to emigration.)
2. INSTAT figures as a result of census population 2011, (the major problem is

that part of population of this area has abandoned the census process at that period, so the figure produced is not representative)

3. Estimation of population-based on the inhabited dwelling (based on data coming from electricity consumption payments system)

4. Empirical survey, conducted by the staff and students of the university (based on the data collected through face to face interviews, using questionnaire composed with demographic and economic data, the main constraint being that only part of households have been interviewed)

5. Population according to the number of voters, declared by the Central election commission (which refers only to the population over +18 years old)

The main constraint of all the above mentioned data-sources is the coverage, but in order to support the process of designing and developing the Local Plan as a positive instrument for economic growth and quality of life in the Dropull Municipality, the following demographic data produced by using the number of voters in 2015 local election as data sources, was deemed appropriate only for the technical purposes of urban planning:

A simple methodology has been applied to estimate the size of the resident population's stock. This methodology is based on the size and structure of the population by age groups. It was important to define first the total size of the municipality's resident population and then to make a tentative estimation on the population breakdown by age groups. So for the segment of the population aged from +18-, the official number of voters in the local elections, approximately 6200 people have been considered as a "correct" number.

For the estimation of the part of the population aged from 0-18, the structure of the population by age groups based on census data of 2011 was taken into account. Keeping in mind that the size of Dropull Municipality's population was not correct, the population of Gjirokaster Municipality was used as correct size and structure. Based on the acquired information, the ratios by age groups over the total population were built up and those ratios were used to estimate the population aged from 0-18 and also to prepare Dropull Municipality's estimation of population breakdown by age groups. The more in detail steps for estimation of size and structure of population are listed below:

- As source data both data on voter's number of 2015 year and 2011 census data, published by CEC and INSTAT at the commune/local unit level, have been used.
- These data are adjusted according to the new administrative-territorial division of 2014.
- Population number by district level has

been updated according to the latest publication of the Institute of Statistics (INSTAT) in January 2018.

- Based on these data, the weights are built up as ratio of the population at the local unit over the district level.
- These weights have been applied to the latest population number at district-level to calculate population figures at Municipality and local units within municipalities.
- The weights instrument has also been used to prepare the estimation of the population by gender and age group at the Municipality and local level.

Comparing those results with previous years once more, the results showed that the population growth rate records a negative value estimated for about -15% compared with the year 2015 and about 65% compared with years of the 90's. The ongoing process of emigration, as well as the decline in fertility rates, have affected not only the decline in population as stock but also the drastic change in its demographic structure. Another very important factor in determining the resident population's stock in Dropull Municipality is also the migration of population, as a result of which the population of this area is reduced by about 27%.

## Conclusion

Building up efficient policies both at the central and local level to guarantee the sustainable development of the territory and economy requires as an indispensable prerequisite, the setting up of sustainable and updated data system which subsequently contributes to the production of reliable and timely statistics indicators.

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