РЕПУБЛИКА МАКЕДОНИЈА
МИНИСТЕРСТВО ЗА ТРУД И СОЦИЈАЛНА ПОЛИТИКА

REPUBLIC OF MACEDONIA
MINISTRY OF LABOR AND SOCIAL POLICY

System of Indicators for Monitoring and Evaluation of the Decade of Roma Inclusion in Macedonia

December, 2013

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Content

Acronyms Used in the Narrative

ESA	Employment Service Agency of the Republic of Macedonia
LFS	Labour Force Survey
HBS	Household Budget Survey
SILC	EU Survey of Income and Living Conditions
DRI	Decade of Roma Inclusion
SSO	State Statistical Office of the Republic of Macedonia
EUROSTAT	Statistical device of EU countries
ESE 2007	Survey conducted by the Association for **E**mancipation, **S**olidarity and **E**quality of Women in Macedonia in 2007 regarding Roma health
ESP	Roma Education Support Programme
ECHI	European Community Health Indicators
IPH	Institute of Public Health of the Republic of Macedonia
OSI	Open Society Institute
RR 2004, RR 2011	Roma Regional Research conducted by UNDP and the World Bank for the purpose of DRI in 2004 and 2011
ISCED 97	**I**nternational **S**tandard **C**lassification of **E**ducation – ISCED, 1997 version
M&E	Monitoring and Evaluation
MICS	UNICEF Multiple Indicator Cluster Survey
MICS 3 and MICS 4	UNICEF Multiple Indicator Cluster Survey, the third cycle of the Survey conducted in 2005-2006, and the fourth cycle of the Survey conducted in 2010
MLSP	Ministry of Labour and Social Policy
MoH	Ministry of Health
MoES	Ministry of Education and Science
ILO	International Labour Organization
MLS	Ministry of Local Self-Government
MTC	Ministry of Transport and Communications
MDG	Millennium Development Goals
NAP	National Action Plan
NUTS	National Nomenclature of Territorial Units for Statistics, according to EU standards
Non-Roma	Abbreviation for the majority population living near Roma, as part of the UNDP Research on Roma. Used in names of columns and rows in Tables
NUTS 3	Territorial unit at a regional level, according to the NUTS Nomenclature
NGO	Non-governmental organization
OECD	Organisation for Economic Cooperation and Development of developed countries
UN	United Nations Organization
DDRIS	Department for Decade of Roma Inclusion and Strategies in MLSP
2002 Census	Census of Population, Households and Dwellings in Macedonia, in 2002
RM	Republic of Macedonia
WB	World Bank
SR	Strategy for Roma
WHO	World Health Organization
SILC	Survey of Income and Living Conditions, a standardized survey of EUROSTAT

UNICEF	United Nations Children's Fund
UNESCO	UN Agency for Educational, Scientific and Cultural Cooperation
UNDP	United Nations Development Programme
DPDEECM	Directorate for Promotion and Development of Education for Ethnic Community Members, a body within the MoES
HIF	Health Insurance Fund

List of Tables

		total and Roma		
28	T-18.1	Students in secondary education, total and Roma	32	ED7
29	T-18.2	Roma students enrolled in secondary education, according to DPDEECM records	32	ED7
30	T-19	Students who have completed regular secondary education, total and Roma	33	ED8
31	T-25	University undergraduates who are Republic of Macedonia's nationals, total and Roma	33	ED14
32	T-26	University graduates who are Republic of Macedonia's nationals, total and Roma	33	ED15
33	T-29.2	Teachers and other professionals in primary education, total and Roma	34	ED18
34	T-31	Computer literacy	34	ED20
35	T-32	List of Health Indicators	35	
36	T-33	Health insurance rate of Roma	36	H1
37	T-34	Access to health services	36	H2
38	T-35	Personal opinion about general health, structure (%)	37	H3
39	T-36	Chronic diseases prevalence	37	H4
40	T-37	Unmet need for medical examination or treatment	38	H5
41	T-38.1	Mortality of infants and children under 5 years of age	38	H6
42	T-38.2	Mortality rate of infants and children under 5 years of age in 2005 and 2011, according to the official statistics and MICS Surveys	39	H6
43	T-39	Low birth weight	39	H7
44	T-40	Coverage of vaccinated children aged 18-29 months, according to a vaccination card or health record	39	H8
45	T-41	List of Housing and Living Conditions Indicators	39	
46	T-42	Household persons expressing opinion on regular waste collection, %	41	H01
47	T-43	Household persons expressing opinion on regular waste collection	41	H02
48	T-44:	Average number of rooms per household	41	H03
49	T-45	Population with no access to water supply	42	H04
50	T-46	Population with no shower or bath inside the dwelling	42	H05
51	T-47	Population with access to electricity grid	42	H06
52	T-48	Energy sources for heating and cooking	42	H07
53	T-49	Structure of household supplies with durable goods, (%)	43	H08
54	T-50	Material Deprivation Index, (%)	43	H09
55	T-51	Gini Coefficient	43	H10
56	T-52	Richest 20% to poorest 20% ratio	43	H11
57	T-53	List of Employment Indicators	44	
58	T-54.1	Structure of the working-age population, both employed and unemployed, by gender and by the highest education level attained, (%)	46	EM1
59	T-54.2	Structure of female working-age population, both employed and unemployed, by gender and by the highest education level attained, (%)	46	EM1
60	T-54.3	Structure of male working-age population, both employed and unemployed, by gender and by the highest education level attained, (%)	47	EM1
61	T-55	Rates of activity, employment and unemployment by gender and age	47	EM2-EM4

62	T-56	Long-term unemployment rate and share of long-term unemployment in total unemployment	47	EM5
63	T-57	Rate of self-employment, (%)	48	EM6
64	T-58	Rate and incidence of informal employment	48	EM7
65	T-59.1	Administrative Roma unemployment, by gender and vocational training and education	48	EM8
66	T-59.2.	Structure of administrative Roma unemployment, by gender and vocational training and education, %	49	EM8

1. Introduction

The "Decade of Roma Inclusion 2005-2015" was an explicit agreement between the Governments of nine countries in Central and Southeast Europe in 2003 with the aim to accelerate the progress in improving the economic status and social inclusion of the Roma population. The Governments of Bulgaria, Croatia, the Czech Republic, Hungary, Macedonia, Montenegro, Romania, Serbia and Slovakia have committed to the following:

- *Adoption of National Action Plans (NAPs)* to support four priority areas such as: education, employment, health and housing by providing sufficient financial resources for these areas;
- *Coordination between Ministries and other relevant institutions* of public administration in NAP activities;
- *Transparency and information sharing in terms of the Roma Decade between government institutions and civil society* while providing available disaggregated data according to international standards of data collection and protection;
- *Effective participation of Roma civil society organizations* in the implementation and monitoring of NAPs;
- *An effective monitoring system* that will include a way to measure the progress of NAPs nationwide; and
- *Experience sharing among the Decade countries* during NAP implementation.

2. Monitoring of the Decade of Roma Inclusion

Monitoring of every project is linked to the definition of an adequate system of indicators[1] and their monitoring based on relevant data sources.

One of the basic issues confronted in the Decade and the establishment of an M&E system is the lack of data disaggregated by ethnicity, especially in the official statistical system. As reasons for the meager data on Roma, according to the experiences of different countries, the following have been specified[2]:

1. "Misperception that laws on personal data protection prohibit collection of ethnic data;
2. Failure to understand the strategic importance of ethnic monitoring for fight against discrimination;
3. Fear that statistical data on ethnic communities can be misused to harm the interviewees;
4. Lack of political will of Governments to develop Programmes for Roma Integration, lack of vision for true reform, which will be based on quantitative needs assessments and the willingness to allocate adequate resources;
5. Fear of Governments of the possibility to be embarrassed if statistics reveal some embarrassing aspects of their societies;
6. Methodological difficulty of the question: Who should be considered "Roma"? The ones who declare their Roma ethnicity or a much larger group that is defined by its external attributes of belonging; and

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[1] From a viewpoint of standard Macedonian language, the term "pokazatel" should be used, but it is not common among the general public, in professional and scientific literature, so this paper retains the term "indikator".

[2] Petrova D., (2004) "Ethnic statistics", Roma Rights: Quarterly magazine of the European Centre for Roma Rights, 2 edition, 2004, p. 5.

7. Methodological difficulty of dealing with the rejection of "Roma" to "confess" their ethnicity - rejection which largely varies in space and sub-ethnic identity".

2.1. Distinction between Terminological Concepts of Monitoring, Evaluation, Indicators, Targets

There are many possible definitions of these terms, but regarding M&E and the Decade of Roma Inclusion, the following terms will be used:

1. **Monitoring,** generally defined, means a continuous function aimed at providing indications for the management and other key participants on whether the implementation of the Project is according to the predefined plans or implementation adjustments are necessary;
2. **Evaluation** means a periodic assessment of the relevance, performance, efficiency and impact of the Programme in relation to the goals set, especially after certain interventions and activities. Evaluation can often (but not always) be implemented with the assistance of external evaluators, who are sometimes selected from among the ones responsible for the implementation;
3. **Goal** means what is being pursued in the Project and is often expressed in non-technical, qualitative terms, such as higher rates of participation in education or poverty reduction etc.
4. **Indicator** can be considered as a certain record of the situation, i.e. a variable used to measure progress towards the goal. It can be either quantitative or qualitative.
5. **Target** means the indicator's measurable level (value) to be reached within a certain timeframe of the Project.

The monitoring system follows the indicators both in terms of time and space in order to draw conclusions about the changes resulting from the Project. During the Decade of Roma Inclusion Project, indicators will be classified in terms of monitoring of both processes and results.

Process monitoring indicators will be classified as *input* and *output* indicators. Result monitoring indicators will be classified as *outcome indicators* and *impact indicators*.

Input indicators - measure goods and services provided through resources. Usually, they are quantitative and refer to a given period of time, and most frequently they are used by managers responsible for the implementation of a particular task. For ex., the amount of funds provided for a certain activity, the number of unemployed participants in some training and so on.

Output indicators - measure the level of accessibility of public services, use of services and the level of customer satisfaction after the completion of certain activities.

Outcome indicators - measure the level of accessibility of public services, use of services and the level of customer satisfaction after the completion of the Project.

Impact indicators - are used to measure the end effects of actions and interventions in the key well-being dimensions of individuals. Oftentimes, the action of these effects is extended even beyond the completion of the Project and provides a possibility to measure Project sustainability.

2.2. Design of Indicators[3]

Indicators selected for M&E of DRI follow the **SMART** designing principle

1. **S**pecific – Indicators should be clearly and precisely defined in terms of their goals (what they indicate);
2. **M**easurable – Objects of indicators' measurement can be observed and measured;
3. **A**ction-oriented - Indicators relate to certain actions;
4. **R**ealistic – The definition of indicators takes into consideration the sources (availability) of data;
5. **T**imed – Indicators are designed in such a way that they are able to follow changes over time periods.

In defining the Roma Decade indicators, account was taken of meeting the following requirements:

– *Relevance to activity objectives* - Indicators should measure the different types of social inclusion in NAPs;
– *Use of international standards* - To use as much as possible the already existing socio-economic indicators defined by the UN, EUROSTAT, ILO, WHO, UNICEF, UNESCO, OECD, World Bank, which will enable temporal comparability of data, and also comparability between different countries participating in the Decade of Roma Inclusion and wider, at lower costs;
– *Temporal comparability* – Provision of temporal comparability of data among different participatory countries in the Roma Decade;
– *Disaggregation* of data for the calculation of indicators at the national level shall be possible for:
   i. Both Roma and non-Roma population
   ii. Men and women
   iii. Different age groups
   iv. Different education levels
   v. Different territorial levels (Republic of Macedonia, NUTS 3 Regions, municipalities, cities, etc.)
in order to more easily monitor the effective implementation of various measures and policies;
– *Number of indicators* – A smaller number of carefully selected indicators often provides more useful information than an extensive list of indicators;
– *Balance between process monitoring and result monitoring* – Indicators selected should not be only input or output ones, but also outcome and impact indicators;
– *Quantitative, but also qualitative indicators* - For the Roma Decade, equally important are the qualitative indicators that measure the satisfaction with certain services or changes[4];
– *Monitoring and reviewing* – The List of Selected Indicators should be reviewed annually and if necessary, revised;
– *Roma participation* – Roma should be involved in the selection, implementation, analysis and revision of indicators.

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[3] "Quantitave Indicators for the Decade of Roma Inclusion progress monitoring – Review of the existing experience and possible approaches" – Working meetings with the members of the Decade implementation bodies in Decade countries, Belgrade, 29th October, 2007
[4] Qualitative indicators are more difficult to produce because of conceptual reasons, such as the selection of appropriate measures and scales for measuring the qualitative phenomena, and because of technical reasons (where to find data that matches the objective)

2.3. Data Collection

Indicators selection process must take into account the possibilities for collecting the data necessary for indicators' calculation. Regarding the indicators selected, there must be a Manual (Guide) on data collection and indicators' calculation. In data collection, one should take into account the following aspects:

- *Selection of data collection method* - Data collection should be such that it shall maximize the usefulness of data compared to the costs made for its collection. Attention shall be paid to data collected through the use of focus groups and surveys (contextual qualitative and quantitative data);
- *Consistency* – Data collection techniques should be uniform so that data can be comparable in both geographic and time terms;
- *Regularity of data collection* - Indicators measure the development of phenomena for a given period, so data needs to be collected and updated at least annually or at equal intervals;
- *Disaggregation of data* - Whenever possible, data should be disaggregated by variables relevant to social exclusion such as gender, age, territory, homelessness, poverty etc.;
- *Measurement scales* - Because of the high cost of data collection, data from target pilots and surveys shall often be calculated as averages of the data collected, without additional weighting and adjustment procedures;
- *Data protection* - It is especially important to protect data and preserve data privacy taking into account the vulnerability and frequent segregation of Roma;
- *Data dissemination* - Data used for indicators' calculation should be available and in a user-friendly format. Relevant institutions that provide data for NAPs need to develop databases, preferably a common template that will be used for the Decade of Roma.

2.4. Data Sources

For the purposes of M&E of the DRI in the Republic of Macedonia, data from different sources will be combined.

According to the place of data generation, they are the following:

1. The Official System of the State:
   - Official statistical system and
   - Administrative registers and records;

2. Surveys and projects of various international organizations (UNDP, UNICEF, World Bank, WHO and others);
3. NGO Surveys on Roma population;
4. Community data.

The analysis of available data necessary to calculate the indicators for M&E of the Roma Decade in the Republic of Macedonia showed that the main sources of data are as follows:

1. From the statistical information system supported by the SSO:
- Data from Population Censuses (in 1994 and 2002, the future one after 2011);
- Continuous regular annual statistical surveys: Labour Force Survey - LFS, Household Budget Survey - HBS, and the Survey on Income and Living Conditions - SILC;

- Regular annual statistical surveys in the area of demographic statistics (births, deaths, marriages, divorces, migration, population estimates) and education;

2. From the statistical information system supported by ESA:
- Records of employed and unemployed persons;
- Surveys conducted by the Employment Service Agency;

3. From the statistical information system supported by the IPH:
- Various surveys that contain ethnicity as a variable (for ex., Survey on Population Lifestyle, Groups at Risk from HIV/AIDS, etc.);
- Regular annual surveys;

4. Surveys of international organizations:
- UNDP's Regional Research on Roma in 2004 and 2011[5];
- UNICEF's Multi Indicator Cluster Surveys (MICS) in 2005 and 2011[6];

5. Community data:
- NGO Surveys on Roma population;
- Various community records;

6. Administrative data sources:
- Administrative population records and registers;
- Specific records of the Ministry of Education and Ministry of Health.

2.5 Practical Difficulties in Using Data from the Sources Identified for the Purpose of DRI in the Period 2005-2012

In the actual indicators' calculation, several practical issues have been noticed, such as:

1. <u>The sources identified in 2.4 do not always have data on Roma, although it has been pointed out that such data should be collected;</u>
2. <u>If there is data on the total number of Roma, it is rarely disaggregated by gender, and never by gender and age group, or gender and completed education</u> (such as data from Population Censuses, or statistics on births, deaths and education)
3. <u>Data is collected but not published</u>, with an explanation that this is contrary to the Law on Personal Data Protection;
4. <u>Non-comparability of data having the same feature and collected from different sources, due to different data collection methodologies</u>, such as LFS and UNDP's Regional Research on Roma - RR. LFS is a continuous annual survey, whose data is collected in 52 sub-samples within 52 weeks of the year and such data is used for annual average estimates. RR collects data within only one week, usually in May, and it is the type of survey that assesses only the period for which data is collected. <u>Non-comparability</u> arises due to <u>the design of the sample</u>. For example, Surveys conducted by the SSO and MICS by UNICEF have random probability samples where the sample error is also calculated, thus determining the statistical reliability of data. Other surveys are some combinations of probability, deliberate and quota samples, so one cannot accurately determine the sample error and data reliability. SSO's Surveys and UNICEF's MICS have weighted data, and in other

[5] See UNDP Survey on Vulnerable Groups in 2005, http://vulnerability.undp.sk/

[6] See UNICEF Multi Indicator Cluster Surveys, http://www.unicef.org.mk

surveys, the feature structures are shown without weighting and by direct processing of the sample.

5. <u>Inability to use more sophisticated methods of comparing data from different sources</u> because of different data collection methodologies (for ex., different statistical tests).

6. <u>Small number of indicators that can be calculated in a standardized form.</u> The main reason for this is the lack of data on the number of Roma that is entered as a denominator in the formulas used for indicator calculation (see 2.6).

2.6   Key Risks for Standardized Indicators Calculation

The most serious risk for the calculation and achievement of standardized and quality indicators relating to individuals is the lack of data on both the total population and the number of Roma.

Indicators relating to individuals are standardized if they are presented in the form of rates, i.e. appearance of some feature per 100; 1,000; or even 100,000 people. In that way, standardized indicators make it possible to compare features in different scopes of analysis such as national level, Roma/Non-Roma, local level, international level, or different time periods, gender approach, education level, etc.

In order to standardize the indicators, it is necessary at least to dispose of data on the total population and the number of Roma. This data is entered as denominators in the ratios of the formulas for calculation of rates.

The latest data on the total population comes from the 2002 Population Census. Through the publications of the SSO and its website www.stat.gov.mk one can access data by ethnicity and gender. Nevertheless, for more detailed analyses and calculations of rates that relate to specific age groups (young people, elderly, children etc.), more detailed data by age and gender is required. This is greatly emphasized in medical statistics and epidemiology, where the requirements for standardization of rates such as incidence, prevalence and mortality rates are very strict, because the indicators calculated are very sensitive to age structure, so a change of one percent may be alarming.

SSO makes regular annual estimates of the total population in the middle and at the end of the year, by gender, municipalities and five-year age groups, and publishes such estimates in the middle of the following year. In periods between Censuses, estimates on any population subgroups are not made, so there is no estimate of Roma or any other vulnerable social group. Administrative population records are not yet of satisfactory quality due to the difficult monitoring of external migration data. Incomplete administrative coverage of migration is also a problem for the SSO in its development of population estimates.

Some NGOs and OSCE made estimates of Roma, but the methodologies they applied and their compliance with statistical standards are not sufficiently known, and the estimated number of Roma moves in the range from 50,000 to 135,000 people.

In practice, there are attempts to mitigate this lack of data for rate calculation by using the data from sample-based surveys. So, for example, the non-weighted data from UNDP Roma Research in 2004 and 2011, or the weighted data from MICS Surveys in 2005 and 2010 conducted by UNICEF is used.

Different methodologies, sample design, deliberate choices of areas with Roma in various surveys make the issue of data comparability more complex, even when it is about research conducted in close time periods (such as the literacy data in MICS 2010 and UNDP RR 2011).

Therefore, data comparison should be made very carefully. Data produced by the same methodology can be directly compared. In cases where this is not so, it is more about visual comparison of different sources' data collected and presented in one place. Differences may indicate the existence of differences in actual populations, but they cannot be confirmed by the statistical calculation methods.

However, even the presentation of data from different sources in one place is a good way to show how urgent the situation is in terms of improving the data sources for the calculation of indicators regarding the Decade of Roma Inclusion.

2.7 Classifications Applied for Calculation of Indicators Relating to Persons

Regarding the analysis of Roma social inclusion, of particular importance is the presentation of data by gender, age and education. Standard socio-demographic classifications of UNSTAT[7] and EUROSTAT[8] are therefore used, or the principles of establishing statistical classification are adhered to, if the classification is done for special purposes.

Ethnicity: The following classification is used: 0 - Total; 1 - Roma; 2 - All other undeclared as Roma. This classification is the most important for the Project to determine the DRI indicators. Used in combination with other classifications it allows for the data to be presented in different scopes, i.e. to highlight different dimensions of interest. For example, gender approach, presentation by separate age groups, economic status etc. Ethnicity is determined through persons' self-declaration.

In UNDP's Roma Research, the classification: 1-Roma and 2-Non-Roma is used, where modality 2 is used for respondents living in the immediate vicinity of Roma settlements, who belong to the majority non-Roma population. So, modality 2 does not apply to all other surveyed non-Roma.

Gender: The usual classification is used: 1 - male, 2 - female. Presentation of data by gender is important to follow and analyze the differences between men and women in education, economic activity and political action, which are especially pronounced among Roma.

Age is an important parameter for running various national programmes and policies.

The term **age** means the number of years of age at one's last birthday at the time of their interview or the reference time point of data analysis.

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[7] UNSTAT (1989) "*Handbook on Social Indicators*" Studies in Methods, Series F-49E, http://unstats.un.org/unsd/publication/SeriesF/SeriesF_49E.pdf , accessed on 01/11/2013
[8] EUROSTAT (2007), "Task Force on Core Social Variables"; Methodologies and working papers, http://epp.eurostat.ec.europa.eu/cache/ITY_OFFPUB/KS-RA-07-006/EN/KS-RA-07-006-EN.PDF , accessed on 01/11/2013

There is no universal standard for age classifications and usually they are determined as necessary. In the DRI and Roma Strategy (SR) monitoring, it is practical to monitor both one-year age classification groups of up to 19 years of age, and five-year range classification groups for older ages. Economic activity will be monitored using the following classifications: 15-24, 25-49, 50-64, 65+, or 15-24, 25-54, 55-64, 64+ years of age. The classification 0-5, 0-2, 3-5, 6-14, 15-18, 19-23 and so on, will be used in education.

In the area of education, the terms "initial age", "age of completion of a certain education level", "graduation age", "legal age for attendance of a particular level of education" etc. are used.

Education[9]

For the purpose of collecting, collating and presenting comparable indicators and statistical data at both national and international levels, the education system in the Republic of Macedonia uses the "International Standard Classification of Education" of 1997, i.e. ISCED-97 recommended by UNESCO. ISCED-97 has been proscribed as a national standard[10] since 2002. It covers all types of organized and continuous education to children, adolescents and adults, including those with special needs, regardless of the institution providing the education and regardless of the form of education provided. The classification is also used to define the areas and levels of education.

T-01. Description of ISCED 97 classification and corresponding levels of education in the Republic of Macedonia

ISCED level	ISCED name	Level of education in Macedonia
ISCED -0	Preschool education	Preschool education and upbringing, age: 3-5, duration: 3 years
ISCED -1	Primary education, phase 1	Primary education, phase 1: I - IV grade until 2007 or I - V grade since 2007
ISCED -2	Junior secondary education (junior high)	Primary education, phase 2: from V to VIII grade until 2007 or VI-IX grade since 2007
ISCED -3	Secondary education (high school)	Secondary education
ISCED -5	Tertiary education	Post-secondary education, higher education, specialist and Master
ISCED -6	Doctorate	Doctorate

Territorial classifications

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[9] SSO (2008) *"International Standard Classification of Education"*
http://www.stat.gov.mk/KlasifikaciiNomenklaturi/ISCED97.pdf , accessed on 15 November, 2013

[10] Decision on matching the education data system in the Republic of Macedonia with the International Standard Classification of Education-ISCED 97, "Official Gazette of the RM" no.33/2002

As a territorial level of presentation (dissemination) of results, the following TK1 territorial classification is recommended on the basis of data on Roma enumerated in the 2002 Census of Population, Households and Dwellings:

T-02: Description of TK1 territorial classification

Code	Class descripton
0	Republic of Macedonia
1	Skopje – a total of 10 municipalities: Aerodrom, Butel, Gazi Baba, Gjorche Petrov, Karposh, Kisela Voda, Saraj, Centar, Chair, Shuto Orizari; with a total of 43.6% Roma. Only in Shuto Orizari Municipality, 24.8% of the total Roma population is enumerated.
2	Municipalities that in the 2002 Population Census enumerated at least 800 persons of Roma population as a share in the total population (a total of 11 Municipalities: Prilep, Kumanovo, Bitola, Tetovo, Gostivar, Shtip, Kochani, Kichevo, Vinica, Debar and Veles; with a total of 46% of the enumerated Roma)
3	Other municipalities where at least one Roma is enumerated, with a total of 10.4% of the total Roma population. (Total of 43 municipalities; 17 of them with less than 20 enumerated Roma)
4	Municipalities with no Roma population. There are altogether 20 such municipalities.

For the purpose of data collation and analysis, other classifications will also be applied. For example, municipalities with more than 270 Roma persons enumerated in the 2002 Census, who comprise 97% of the total number of counted Roma.

Urbanity - urban/other area
In the Republic of Macedonia, Roma live mostly in cities and data is rarely presented by urbanity.

Statistical Regions - NUTS 3[11].
Statistical Regions at the third level in the national 'Nomenclature of Territorial Units for Statistics' - NUTS. The nomenclature is based on the local government territorial organization in the Republic of Macedonia and the European Union classification "Nomenclature of Territorial Units for Statistics - NUTS". Because of the difficulties in providing detailed data on Roma, NUTS classification is used very rarely currently.

3. List of Indicators for M&E of the DRI

The List of Indicators is formed according to the SMART principle, the general conditions for the selection of indicators, data collection principles applicable to the Republic of Macedonia and the available data sources in the Republic of Macedonia.

The List consists of 5 parts:
- General Part, i.e. Context Indicators, necessary as a background to the other parts;
- Four separate parts covering indicators in the areas of education, health, housing and employment.

The List of Indicators should be updated and revised at least annually, and if necessary, include new indicators and areas, such as the area of culture as of 2014 along with adequate indicators.

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[11] "Official Gazette of the Republic of Macedonia" no. 158 of 28 December, 2007

The document presents a List of Indicators by areas, indicators' short definitions and data available, often from different sources. In a separate document - Manual for Calculation of Indicators, each indicator will be described in detail according to the following scheme:

- Name of indicator
- Definition
- Data needed
- Level of aggregation
- Place of availability
- Accessibility and restrictions
- Reality of data (Expert's opinion)
- Suggested approach in case of data unavailability
- Guidelines for indicator calculation
- Comments and limitations.

The Manual will be mainly intended for the Department of the Decade of Roma Inclusion in MLSP, which will have to maintain the system of indicators for M&E of the DRI.

The List of Indicators should be an integral part of the Decade of Roma Inclusion Information System, which should be included as a priority future activity for the development of M&E of the DRI. For easier monitoring and transparency, indicators should be organized as an electronic database with WEB presentations.

3.1 Context Indicators

The General Part, i.e. Context Indicators serve as a background to the indicators in other areas. They should facilitate the interpretation of indicators in other areas, and the population data should help to standardize indicators in the form of rates. The proposed List of Context Indicators is as follows:

T-03: List of Context Indicators

	Tag	Name	Source
1	C1	Total population according to the Population Censuses, by ethnicity	SSO
2	C2	Total population estimate at the end of the year	SSO
3	C3	Age dependency rates	SSO, RR2004, RR2011
4	C4	Basic demographic data: number of live births, deaths, infant deaths, natural population growth	SSO
5	C5	Household structure by number of household members	SSO, RR2004, RR2011
6	C6	Available funds by type of income	SSO, RR2004, RR2011
6	C7	Funds used, by consumption purpose, under the COICOP classification	SSO, RR2004, RR2011

3.1.1 Definition of Indicators

The definitions of indicators are most often taken over from the methodological explanations in printed publications, and downloaded from the website of the SSO.

Indicator C1 - Total population according to Population Censuses, by ethnicity

The total population is a derivative category of the counted population and corresponds to the term "permanent resident population". This is the most important category of enumerated population in terms of policy-making, planning of both national and local needs, considering the current situation in the country, and international comparability.

In accordance with the Law on Census of Population, Households and Dwellings in the Republic of Macedonia in 2002[12] and the methodology for preparation and implementation of the Census of Population, Households and Dwellings in Macedonia, the category "total population" consists of the following Census units:
- People who have a usual residence in the Republic of Macedonia, irrespective of whether at the time of the Census they are in their place of residence or elsewhere in Macedonia;
- Foreigners who have a residence permit in the Republic of Macedonia and are temporarily present in the country for at least 12 months (one year), but with their usual place of residence outside the Republic of Macedonia;
- People who have a usual residence in the country and at the time of the Census, but no longer than 12 months (one year) prior to its implementation, are working abroad, as well as the members of their households;
- Persons who have a usual residence in the Republic of Macedonia, and who, at the time of the Census, are working in the diplomatic and consular missions of the Republic of Macedonia abroad, the United Nations and its organizations and representative offices, or are representatives of the Chamber of Commerce abroad, business units overseas, military representatives of the Army of the Republic of Macedonia abroad and citizens engaged on the basis of international, technical and other cooperation, and education, as well as household members of such persons who temporarily reside abroad;
- Persons who have a usual residence in the Republic of Macedonia, and who shall not possess the documents referred to in Article 39 Item 1 of the Census Law, if they present the documents specified in Article 39 Item 3 of the Census Law.

Indicator C2 - Estimation of population at 31 December, structure by age groups[13]

The SSO regularly produces estimates of population for the period between Censuses, at the end and mid-year, by gender, age, municipalities and NUTS 3 Regions.

The preparation of population estimates at the end of the year in the period between Censuses is done so that to the data on population, disaggregated by gender and calendar year of birth at the beginning of the year (end of previous year), data on live births by gender during the year is added, data on deaths during the year is subtracted, which is disaggregated by gender and calendar year of birth, and the migration balance for that year is added, disaggregated by gender and birth calendar year. After this, the birth calendar year is transformed into a number of years of age, and the procedure for the preparation of end-of-year estimates is completed.

Population estimates in the middle of the year, in fact, represent the arithmetic mean of the data from the previous year's end and the end of the year for which the estimation is made.

Indicator C3 - Age dependency rates[14]

Age dependency rates are measures of the population's age structure. They are calculated as different ratios between population age groups such as: young people (0-14), working-age population (15-64) and elderly population aged 65+.

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[12] Law on Census of Population, Households and Dwellings in the Republic of Macedonia 2002 - "Official Gazette of the Republic of Macedonia" no. 16/2001 and amendments to this Law published in the "Official Gazette of the Republic of Macedonia" no. 37/2001, 70/2001 and 43/2002

[13] For a detailed definition see publication number 2.4.13.13: SSO. (2013), *"Population Estimates as of 30.06.2012 and 31.12.2012 by Gender and Age, Municipalities and Statistical Regions: (NUTS 3 -2007)"*, pp. 6-7.

[14] OECD Statistical Glossary, http://stats.oecd.org/glossary/detail.asp?ID=7325, accessed on 3 December, 2013

This indicator shows the rate of population (both young and elderly) "dependent" on the working-age population.

Indicator C4 - Basic demographic data: number of live births, deaths, infant deaths, natural population growth[15]

A live born child is any child that after being born, even for the shortest time, shows signs of life (breathes and has a heartbeat), regardless of the duration of the mother's pregnancy. If the child died shortly after birth, then it is first registered as a live birth, and then as a death.

A stillborn child is a child that was born, i.e. taken out of the mother's body without any signs of life, i.e. it was not breathing or showing any other vital sign such as heartbeat or muscle movement, and it had been in the mother's womb for 28 weeks or more (approximately 7 months).

A dead person is any live born person whose vital functions have ceased permanently.

A dead infant is any child who dies before it reaches one year of age.

Natural population growth - the difference between the number of live births and number of deaths for a specified period of time.

Indicator C5 - Household structure by number of household members

A household is any family or other community of people who declare that they live together and spend their income to cover their basic needs (housing, food, etc.), regardless of whether all members are permanently in the place where the household is settled or some of them reside in another place for some time, such as a foreign country, for the purpose of work, education or for other reasons, where the stay in the foreign country does not exceed 1 year.

According to the number of their members, households are classified as: single-member, two-member, three-member households etc.

Indicator C6 - Available funds of households by type of income

Available household resources include the cash available to the household, the value of products of household's own production used for personal consumption (in-kind consumption) and the value of consumption loans and loans raised and implemented during the reporting period.

In the SSO's Household Budget Survey (HBS), data relates to the available resources by type of sources in the current year, while in the UNDP's Regional Roma Research, data refers only to the month prior to the Survey.

Indicator C5 - Household resources used, by consumption purpose, under COICOP classification

Household resources used are the cash payments for the purchase of products and services for personal consumption, the value of in-kind consumption and the repaid part of consumption loans and investment loans.

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[15] http://www.stat.gov.mk/OblastOpsto.aspx?id=2, accessed on 3 December, 2013, and methodological explanations in publications on natural movement, ex. SSO (2013), "Natural Movement of Population, 2012", p. 7
http://www.stat.gov.mk/PrikaziPoslednaPublikacija.aspx?id=10, accessed on 3 December, 2013

In the SSO's Household Budget Survey (HBS), data relates to the resources used in the current year, while in the UNDP's Regional Roma Research, data refers only to the month prior to the Survey.

COICOP Classification (Classification **o**f **I**ndividual **Co**nsumption by **P**urpose) has been developed by UNSTAT to classify and analyze personal consumption by purpose, in households and non-profit institutions serving households and the government sector.

3.1.2 Indicators Calculated

Indicator C1-Total population according to Population Censuses, by ethnicity

T-04.1: Total population according to Population Censuses, by ethnicity

	1948	1953	1961	1971	1981	1991	1994	2002
Macedonian	65.8	66.0	71.2	69.3	67.0	65.3	66.6	64.2
Albanian	17.1	12.5	13.0	17.0	19.8	21.7	22.7	25.2
Turkish	8.3	15.6	9.4	6.6	4.5	3.8	4.0	3.8
Roma	1.7	1.6	1.5	1.5	2.3	2.6	2.2	2.7
Vlach	0.8	0.7	0.6	0.4	0.3	0.4	0.4	0.5
Serbian	2.6	2.7	3.0	2.8	2.3	2.1	2.1	1.8
Bosniak	-	-	-	-	-	-	-	0.8
Other and undeclared	1.0	1.0	1.4	2.3	3.8	4.1	2.0	1.0

Source: SSO

T-04.2: Total population according to 2002 Population Census, by ethnicity, by municipalities and by number of enumerated Roma[16], [17],

Municipality	Total	Macedonian	Albanian	Turkish	Roma	Vlach	Serbian	Bosniak	Other
Total	**2022547**	**1297981**	**509083**	**77959**	**53879**	**9695**	**35939**	**17018**	**20993**
Skopje	**506926**	**338358**	**103891**	**8595**	**23475**	**2557**	**14298**	**7585**	**8167**
Aerodrom	72009	64391	1014	430	580	501	3085	538	1470
Butel	36154	22506	9107	1304	561	120	1033	970	553
Gazi Baba	72617	53497	12502	606	2082	236	2097	710	887
Gjorche Petrov	41634	35455	1597	368	1249	109	1730	489	637
Karposh	59666	52810	1952	334	615	407	2184	98	1266
Kisela Voda	57236	52478	250	460	716	647	1426	425	834
Saraj	35408	1377	32408	45	273	0	18	1120	167
Centar	45412	38778	1465	492	974	459	2037	108	1099
Chair	64773	15628	36921	4500	3083	78	621	2950	992
Shuto Orizari	22017	1438	6675	56	13342	0	67	177	262
Prilep	76768	70878	22	917	4433	17	172	86	243
Kumanovo	105484	63746	27290	292	4256	147	9062	20	671
Bitola	95385	84616	4164	1610	2613	1270	541	21	550
Tetovo	86580	20053	60886	1882	2357	15	604	156	627
Gostivar	81042	15877	54038	7991	2237	15	160	39	685
Shtip	47796	41670	12	1272	2195	2074	297	11	265

[16] Census of Population, Households and Dwellings, Book 13, Table 4, www.stat.gov.mk

[17] Skopje's Municipalities are presented together, because they are connected and make a specific unit

Municipality	Total	Macedonian	Albanian	Turkish	Roma	Vlach	Serbian	Bosniak	Other
Kochani	38092	35472	1	315	1951	194	67	2	90
Kichevo	30138	16140	9202	2430	1630	76	86	7	567
Vinica	19938	18261	0	272	1230	121	32	0	22
Debar	19542	3911	11348	2684	1080	2	22	3	492
Veles	55108	46767	2299	1724	800	343	540	2406	229
Kavadarci	38741	37499	2	167	679	27	218	4	145
Kriva Palanka	20820	19998	0	2	668	3	103	2	44
Delchevo	17505	16637	7	122	651	4	35	0	49
Berovo	13941	13335	0	91	459	6	20	3	27
Negotino	19212	17768	30	243	453	14	627	1	76
Ilinden	15894	13959	352	17	428	1	912	0	225
Pehchevo	5517	4737	0	357	390	2	12	0	19
Radovish	28244	23752	8	4061	271	26	71	1	54
Resen	16825	12798	1536	1797	184	26	74	1	409
Kratovo	10441	10231	0	8	151	1	33	0	17
Strumica	54676	50258	3	3754	147	3	185	6	320
Petrovec	8255	4246	1887	75	134	0	415	1442	56
Gradsko	3760	2924	125	71	127	0	23	465	25
Struga	63376	20336	36029	3628	116	656	106	103	2402
Zelenikovo	4077	2522	1206	1	92	1	45	191	19
Studenichani	17246	309	11793	3285	73	0	14	1662	110
Sveti Nikole	18497	18005	0	81	72	238	71	1	29
Ohrid	55749	47344	2962	2268	69	323	366	29	2388
Tearce	22454	2739	18950	516	67	0	14	1	167
Dojran	3426	2641	17	402	59	3	277	2	25
Rankovce	4144	4058	0	0	57	0	18	0	11
Jegunovce	10790	5963	4642	4	41	0	109	1	30
Probishtip	16193	15977	0	6	37	37	89	1	46
Valandovo	11890	9830	0	1333	32	1	639	1	54
Bosilovo	14260	13649	0	495	24	0	8	0	84
Chucher Sandevo	8493	4019	1943	0	23	16	2426	1	65
Demir Kapia	4545	3997	23	344	16	0	132	1	32
M. Kamenica	8110	8055	0	0	14	0	24	8	9
Dolneni	13568	4871	3616	2597	13	0	16	2380	75
Gevgelia	22988	22258	8	31	13	214	367	5	92
Demir Hisar	9497	9179	232	35	11	7	13	2	18
Mavrovo and Rostushe	8618	4349	1483	2680	10	0	6	31	59
Krivogashtani	6150	6126	0	0	8	0	6	0	10

Municipality	Total	Macedonian	Albanian	Turkish	Roma	Vlach	Serbian	Bosniak	Other
Mogila	6710	6432	34	229	6	0	2	0	7
Rosoman	4141	3694	0	0	6	0	409	0	32
Bogovinje	28997	37	27614	1183	5	0	1	9	148
Vasilevo	12122	9958	0	2095	5	1	4	1	58
M. Brod	7141	6927	0	181	3	0	22	1	7
Novo Selo	11567	11509	0	0	3	0	25	2	28
Karbinci	4012	3200	0	728	2	54	12	0	16
Bogdanci	8707	8093	2	54	1	5	525	0	27
Drugovo	3249	2784	155	292	1	0	8	0	9
Staro Nagorichani	4840	3906	1	0	1	0	926	0	6
Zhelino	24390	71	24195	2	0	0	1	5	116
Chashka	7673	4395	2703	391	0	1	55	67	61
Cheshinovo	7490	7455	0	0	0	30	4	0	1
Arachinovo	11597	596	10879	0	0	1	10	65	46
Brvenica	15855	5949	9770	2	0	0	78	1	55
Centar Zhupa	6519	814	454	5226	0	0	0	0	25
Debarca	5507	5324	153	2	0	1	8	0	19
Konche	3536	3009	0	521	0	0	3	0	3
Krushevo	9684	6081	2064	315	0	1020	38	137	29
Lipkovo	27058	169	26360	0	0	1	370	6	152
Lozovo	2858	2471	35	157	0	122	27	34	12
Novaci	3549	3490	21	27	0	1	7	0	3
Oslomej	10420	110	10252	0	0	0	0	1	57
Plasnica	4545	34	20	4446	0	0	0	0	45
Sopishte	5656	3404	1942	243	0	4	32	0	31
Vevchani	2433	2419	3	0	0	1	3	0	7
Vraneshnica	1322	1033	10	276	0	0	2	0	1
Vrapchishte	25399	1041	21101	3134	0	0	4	8	111
Zajas	11605	211	11308	0	0	0	6	0	80
Zrnovce	3264	3247	0	0	0	13	2	0	2
Total population in municipalities with at least 800 counted Roma	**1162799**	**755749**	**273153**	**29984**	**48257**	**6831**	**25881**	**10336**	**12608**
Other municipalities	**859748**	**542232**	**235930**	**47975**	**5622**	**2864**	**10058**	**6682**	**8385**

Source: SSO. Book 13, 2002 Population Census

T-04.3: Total population by nationality, by municipalities with at least 800 counted Roma, 2002 Population Census, (%)

Municipality	Total	Macedonian	Albanian	Turkish	Roma	Vlach	Serbian	Bosniak	Other
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Skopje - all municipalities	**25.1**	**26.1**	**20.4**	**11.0**	**43.6**	**26.4**	**39.8**	**44.6**	**38.9**
Prilep	3.8	5.5	0.0	1.2	8.2	0.2	0.5	0.5	1.2
Kumanovo	5.2	4.9	5.4	0.4	7.9	1.5	25.2	0.1	3.2
Bitola	4.7	6.5	0.8	2.1	4.8	13.1	1.5	0.1	2.6
Tetovo	4.3	1.5	12.0	2.4	4.4	0.2	1.7	0.9	3.0
Gostivar	4.0	1.2	10.6	10.3	4.2	0.2	0.4	0.2	3.3
Shtip	2.4	3.2	0.0	1.6	4.1	21.4	0.8	0.1	1.3
Kochani	1.9	2.7	0.0	0.4	3.6	2.0	0.2	0.0	0.4
Kichevo	1.5	1.2	1.8	3.1	3.0	0.8	0.2	0.0	2.7
Vinica	1.0	1.4	0.0	0.3	2.3	1.2	0.1	0.0	0.1
Debar	1.0	0.3	2.2	3.4	2.0	0.0	0.1	0.0	2.3
Veles	2.7	3.6	0.5	2.2	1.5	3.5	1.5	14.1	1.1
Total selected municipalities	**57.5**	**58.2**	**53.7**	**38.5**	**89.6**	**70.5**	**72.0**	**60.7**	**60.1**
Other municipalities	**42.5**	**41.8**	**46.3**	**61.5**	**10.4**	**29.5**	**28.0**	**39.3**	**39.9**

Source: SSO. Book 13, 2002 Population Census

Indicator C2 - Estimation of population at 31 December, structure by age groups

T-05.1: Estimation of population at 31 December, structure by age groups

	1995	2001	2005	2010	2011	2012
Population in thousands	1,957	2,039	2,039	2,057	2,060	2,062
			Structure (%)			
0-14	24.4	21.5	19.4	17.4	17.2	17.0
15-64	66.7	68.0	69.4	70.8	71.0	71.0
65+	8.8	10.4	11.1	11.7	11.8	12.0
0-59	86.4	85.3	84.6	83.1	82.8	82.3

Sources: SSO - Makstat Database and annual publications "Population Estimates in the Middle and End of the Year, by Gender and Age, by Municipalities and Statistical Regions (NUTS-3)"

T-05.2: Structure of Roma population by age groups in Roma Research of 2004 and 2011

Age groups	RR 2004		RR 2011		SSO 31.12.2010
	Roma	Non-Roma	Roma	Non-Roma	
0-14	30.2	16.2	30.0	19.1	17.4
15-64	65.5	72.8	66.1	69.4	70.8
65+	4.3	10.9	4.0	11.5	11.7
0-59	93.1	83.2	93.1	83.8	84.6

Source: UNDP Regional Roma Research in 2004 and 2011

Indicator C3 - Age dependency rates

T-06.1: Age dependency rates of the total population in the Republic of Macedonia

	1995	2001	2005	2010	2011	2012
0-14/15-64	37.1	31.6	28.0	24.6	24.2	24.0
65+/15-64	12.8	15.3	16.0	16.5	16.6	16.9
((10-14)+(65+)/(15-64)	49.8	46.9	43.9	41.1	40.8	40.9

| 65+/0-14 | 34.4 | 48.4 | 57.2 | 67.2 | 68.6 | 70.6 |

Source: SSO

T-06.2: Age dependency rates in Roma

	RR 2004		RR 2011	
	Roma	Non-Roma	Roma	Non-Roma
(0-14)/(15-64)	46.2	22.3	45.4	27.5
(65+)/(15-64)	6.6	15.0	6.1	16.6
((10-14)+(65+)/(15-64)	52.7	37.3	51.4	44.1
(65+)/(0-14)	14.2	67.4	13.3	60.2

Source: UNDP Regional Roma Research in 2004 and 2011

T-06.3: Average age

	RR 2004		RR 2011		Average population age in the RM, SSO	
	Roma	Non-Roma	Roma	Non-Roma	2004	2011
	27.8	36.7	28.0	36.2	35.6	35.8

Source: UNDP Regional Roma Research in 2004 and 2011 and the SSO on the population in Macedonia

Indicator C4 - Basic demographic data: Number of births, deaths, infant deaths, natural population growth

T-07.1: Basic demographic data: Number of births, deaths, infant deaths, natural population growth in the period 1998-2011 on both total population and Roma

Year	Live births		Deaths		Infant deaths		Natural population growth	
	Total	Roma mother	Total	Roma	Total	Roma	Total	Roma
1998k	26639	1652	16628	412	474	47	10011	1240
1999k	24964	1587	16789	445	404	34	8342	1142
2000k	26168	1674	17085	410	345	31	9083	1264
2001k	24183	1606	16790	462	320	31	7393	1144
2002k	24154	1560	17866	441	282	18	6288	1119
2003k	23596	1657	17813	476	303	23	5783	1181
2004	23361	1595	17944	438	308	31	5417	1157
2005	22482	1553	18406	471	287	30	4076	1082
2006	22585	1646	18630	506	260	45	3955	1140
2007	22688	1597	19594	527	234	21	3094	1070
2008	22945	1558	18982	449	223	20	3963	1109
2009	23684	1749	19060	456	278	23	4624	1293
2010	24296	1806	19113	457	185	14	5183	1349
2011	22770	1574	19465	495	172	16	3305	1079
2012	23568	1548	20134	533	230	18	3434	1015

Source: SSO, annual publications on natural population growth.
In 2004, a change was made to the methodology of vital events' presentation, where in the total number of vital cases, only the vital events that have occurred in the Republic Macedonia were included. Consequently, a revision was made of the data on the number of births and deaths for the period 1998-2004. Accordingly, the cases of Macedonia's nationals born and deceased abroad, while recorded in the birth and death records of the country, are not included in this data. The number of Roma is not adjusted according to this revision.

T-07.2: Basic demographic data: Number of births, deaths, infant deaths, natural population growth in the period 2000-2011, on both total population and Roma, indices with a 2000 base

Year	Live births		Deaths		Infant deaths		Natural population growth	
	Total	Roma mother	Total	Roma	Total	Roma mother	Total	Roma
1998k	101.8	98.7	97.3	100.5	137.4	151.6	110.2	98.1
1999k	95.4	94.8	98.3	108.5	117.1	109.7	91.8	90.3
2000k	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
2001k	92.4	95.9	98.3	112.7	92.8	100.0	81.4	90.5
2002k	92.3	93.2	104.6	107.6	81.7	58.1	69.2	88.5
2003k	90.2	99.0	104.3	116.1	87.8	74.2	63.7	93.4
2004	89.3	95.3	105.0	106.8	89.3	100.0	59.6	91.5
2005	85.9	92.8	107.7	114.9	83.2	96.8	44.9	85.6
2006	86.3	98.3	109.0	123.4	75.4	145.2	43.5	90.2
2007	86.7	95.4	114.7	128.5	67.8	67.7	34.1	84.7
2008	87.7	93.1	111.1	109.5	64.6	64.5	43.6	87.7
2009	90.5	104.5	111.6	111.2	80.6	74.2	50.9	102.3
2010	92.8	107.9	111.9	111.5	53.6	45.2	57.1	106.7
2011	87.0	94.0	113.9	120.7	49.9	51.6	36.4	85.4
2012	90.1	92.5	117.8	130.0	66.7	58.1	37.8	80.3

Source: SSO

Indicator C5: Household structure by number of household members

T-08.1: Household structure by number of household members

Number of household members	2004		2011		2002 Census	2010 SILC
	Roma	Non-Roma	Roma	Non-Roma		
Single-member household	2.9	8.8	3.8	9.5	9.5	10.1
Two-member	9.8	18.3	12.1	20.7	19.6	19.1
Three-member	11.3	16.7	13.8	13.1	18.4	17.7
Four-member	23.5	26.5	18.3	21.8	28.4	28.2
Five and more members	52.5	29.7	52.0	34.9	24.0	25
Of which						
Five-member	22.4	17.0	20.6	16.5	12.5	...
Six-member	13.7	7.2	13.7	11.7	7.0	...
Seven and more members	16.4	5.6	17.8	6.7	4.5	...

Source: UNDP Regional Roma Research in 2004 and 2011 and SSO data from the 2002 Census and 2010 SILC Survey

T-08.2: Average number of children per household, average number of members per household

	RR 2004		RR 2011		2002 Census
	Roma	Non-Roma	Roma	Non-Roma	
Average number of children per household	..	..	1.7	0.9	...

Average number of children in households with children	..	..	2.3	1.9	...
Average number of members per household	4.8	3.7	4.7	3.8	3.75 (HBS 2011)

Source: UNDP Regional Roma Research in 2004 and 2011 and SSO data from the 2002 Census and HBS 2011

Indicator C6: Available resources by type of income

T-09: Available resources by type of income

	HBS		RR 2011	
	2005	2010	Roma	Non-Roma
Total available resoures, monthly average in MKD	21 689	26 916	10 268	19 997
1 Cash funds	92	95.9	..	..
1.1 Income from permanent employment	50	61.1	37	50
1.2 Revenues outside of permanent employment	5.4	4.3	8	3
1.3 Income from Pension Insurance	17.3	17.5	17	31
1.4 Other income from Social Security	3.6	1.6	32	11
1.5 Overseas income	4.2	2.8	4	3
1.6 Net income from agriculture	5.9	5.6	..	..
1.7 Property rental and sale	0.6	0.3	..	..
1.8 Gains, gifts and similar income	0.9	0.3	..	..
1.9 Borrowings	0.8	0.2	..	..
1.10 Savings reduction	2.8	2.2	..	..
1.11 Other income	0.3	0	1	0
2 Consumption loans and investment loans	1.1	0.5	..	..
3 In-kind income as a salary	0	0	..	..
4 Value of in-kind consumption	6.9	3.7	..	..

Source: SSO, HBS and UNDP Regional Roma Research in 2011

Indicator C7: Resources used, by consumption purpose, under COICOP classification

T-10: Resources used, by consumption purpose, under COICOP classification

	HBS		RR 2011	
	2005	2010	Roma	Non-Roma
Total resources used, monthly average in MKD	30 695	30 177	12 485	20 128
0 Individual consumption	92	90	99	97
01 Food and non-alcoholic beverages	40	39	57	48
02 Alcoholic beverages and tobacco	4	4	9	5
03 Clothing and footwear	7	6	3	6

04 Rent, water, electricity, gas and other fuels	11	12	13	19
05 Furnishings, house equipment and maintenance	5	5	4	3
06 Health	3	3	8	6
07 Transport	6	6	2	4
08 Communications	4	4	1	3
09 Leisure and culture	4	2	..	..
10 Education	1	1	2	3
11 Restaurants and hotels	4	5	...	...
12 Other goods and services	3.7	4.4	1	1
20 Other costs that are not part of individual consumption	8.2	9.7	...	...

Source: SSO, HBS and UNDP Regional Roma Research in 2011 and SSO

3.2. Education Indicators[18, 19]

Main sources of official data on education are: the SSO, the Ministry of Education and Science (MoES) and the Directorate for Promotion and Development of Education for Ethnic Community Members (DPDEECM) as a separate body within the MoES.

SSO is responsible for the implementation of the Statistical Programme[20] on Education. Reporting units for preschool education, primary and secondary education are the institutions dealing with the respective activity, i.e. kindergartens or schools. Data is taken at an aggregate institutional level and thus limits the possibility for a more detailed data processing and analysis. There is data on the total number of children or students by ethnicity, but not always by gender or year of birth, which is insufficient for the needs of the DRI. Data on university students, master graduates and doctoral candidates is collected through individual questionnaires. They contain data on ethnicity and by further processing of regular statistical surveys, all the necessary data for indicator calculation can be obtained.

MoES keeps certain records for their own purposes and is intensively working on the introduction of electronic databases of participants in both primary and secondary education. It is about a wide implementation of the Project "Electronic Log-book" and EMIS System (**E**lectronic **M**anagement **I**nformation **S**ystem) recommended and supported by the World Bank. However, electronic databases are not yet of satisfactory quality because of the need for their regular update with a lot of data. These records also contain data on students' ethnicity.
The MoES may become a new administrative education data source and in the near future, it may even take this administrative data and process it for statistical purposes on behalf of the SSO.

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[18] See 2007 Report on Roma Education Monitoring: "Equal Access to Quality Education for Roma", Volume 2, Chapter 2. Basic Indicators of Education; Open Society Institute, ESP Programme, RPP Programme, http://www.eumap.org

[19] Indicators of Education, Technical Manual, UNESCO Institute for Statistics, http://www.uis.unesco.org

[20] Programme of Statistical Surveys for the period 2008-2012, Official Gazette no. 11/2008, pp. 394-434 and Programme of Statistical Surveys for the period 2013 - 2017, Official Gazette no. 04/2013 and SSO website: http://www.stat.gov.mk/pdf/ProgramaStatIstr20132017.pdf

The Directorate for Promotion and Development of Education for Ethnic Community Members (DPDEECM) keeps records of enrolled students, by ethnicity, grade, optional subjects selected and by municipalities, but not by age. There is also data on teachers by ethnicity. Data is collected by municipalities in October. Since 2012, Roma students' drop-out of school has also been monitored by classes.

Data maintained by DPDEECM differs from the SSO data in an interval (-5%, 10%), so examination of similarity with the SSO methodology will be required. The proposed List of Education Indicators is as follows:

T-11: List of Education Indicators

	Tag	Name	Source
1	**ED1**	Literacy rate	Censuses, RR 2011, MICS 3 and 4
2	**ED2**	Population aged 15 and over, by highest level of education completed	LFS, RR 2011
3	**ED3**	Population aged 15-24 who are not working and not attending school	LFS, RR 2011
4	**ED4**	Roma children attending preschool education	SSO
5	**ED5**	Roma children attending primary school	SSO, DPDEECM
6	**ED6**	Roma students that have completed primary education	SSO, DPDEECM
7	**ED7**	Roma students attending secondary school	SSO, DPDEECM
8	**ED8**	Roma sudents that have completed secondary education	SSO, DPDEECM
9	**ED9**	Roma students repeating classes in primary school	SSO, DPDEECM
10	**ED10**	Roma students repeating classes in secondary school	SSO, DPDEECM
11	**ED11**	Roma children that drop out of primary school	SSO, DPDEECM
12	**ED12**	Grade-point average (GPA) of students in primary and secondary education	MoES, DPDEECM
13	**ED13**	Roma students in special primary and secondary schools	SSO, DPDEECM
14	**ED14**	Roma enrolled in higher education	SSO, MoES, DPDEECM
15	**ED15**	Roma completing higher education	SSO, MoES, DPDEECM
16	**ED16**	Roma graduate students and Roma attending specialized studies	SSO, MoES, DPDEECM
17	**ED17**	Roma master and doctorate degree holders	SSO, MoES, DPDEECM
18	**ED18**	Roma teachers and other professional associates in levels of education (preschool, primary, secondary, higher)	SSO, MoES, DPDEECM
19	**ED19**	Roma students in primary schools for adults	SSO, MoES
20	**ED20**	Computer literacy	SSO, RR 2011
		List of Indicators from the NAP on Education	MLSP

All indicators should also be monitored by gender. In addition, students should be followed by classes in primary and secondary education.

The first three indicators ED1-ED3 and ED20 will be used as outcome indicators and will be calculated in the years of conducting research on Roma.

Other indicators ED4-ED19 will be monitored annually by combining data from the SSO, MoES and Directorate for Promotion and Development of Education for Ethnic Community Members. Due to the lack of new Census data on the number of Roma by gender and age groups, it is not possible to calculate standardized rates on Roma such as gross and net enrollment rates, rates of completion of a particular education level, and transition rates of age cohorts, from students' entry to students' exit from a particular level of education. ED4-ED19 indicators are monitored in absolute numbers, while changes are monitored by their comparison with the previous year. For better monitoring of access to education for both

men and women, the so-called **G**ender **P**arity **I**ndex (GPI) is also followed**.** It measures the relative access to education of men per one hundred women.

The List should be accompanied by the List of Education NAP Indicators.

3.2.1 Definitions of Education Indicators

According to the UN Census recommendations, **a person shall be considered literate** if they are 10 or more years of age and can read and write a short text. This refers to people without education or without complete primary education.

According to the UNDP Roma Research, persons aged 16 years and over shall be asked about their literacy.

Literacy rate is the share of literate persons in the population of a certain age (10+ or 16+).

Highest level of education completed refers to the highest level of education that a person has acquired up to a certain age according to the ISCED classification. Commonly considered age is 15 years and over.

Computer literacy - in UNDP Roma Research, this refers to the knowledge to use a computer for word processing.

Other indicators relate to monitoring of Roma students who attend, complete, leave or repeat a certain level of education. The number of teachers and professional associates at certain levels of education is also monitored.

3.2.2 Indicators Calculated

Not all indicators from the List of Education Indicators are supported by data for their calculation. Most data on Roma can be obtained from DPDEECM (for ex., Roma repeaters, Roma leaving school, Roma GPA, etc.). A part can be obtained through further elaboration of the 2004 Regional Roma Research. The numbering of Tables contains leaps in order to also fit the Tables for which additional data will be obtained.

Indicator ED1 - Literacy rate

T-12.1: Personal perception of literacy among Roma and non-Roma population, by gender and age groups, (%)

Age	RR 2004		RR 2011	
	Roma	Non-Roma	Roma	Non-Roma
6-15	84.0	97.9	74.9	85.4
15-24	90.3	100.0	86.8	95.9
25-34	86.8	100.0	83.9	98.4
35-44	83.5	99.5	81.6	95.5
45-54	77.8*	95.4*	82.3	96.7
54+	...	...	74.6	94.2
Total	84.0	98.0	81.0	94.6

*)45+,

T-12.2. Literacy rates of Roma, by gender and age groups, (%)

Age	RR 2004		RR 2011		MICS 2011	
	Female	Male	Female	Male	Total female	Roma women
<15	74.8	96.2	74.8	75.0	...	...
15-24	87.2	100.0	83.9	89.4	97.4	**76.6**
25-34	76.8	100.0	77.0	90.8		
35-44	74.0	99.1	73.8	89.9		
45-54	63.3*	92.1*	71.1	92.7		
54+			62.6	87.2		
Total			74.8	87.3		

*)45+

Indicator ED2 - Population aged 15 and over, by highest level of education completed

T-13.1: Population aged 15 and over, by highest level of education completed

	LFS		RR 2011	
	2005	2011	Roma	Non-Roma
No education or incomplete primary education	13.6	10.2	48.4	17.9
Primary (ISCO 1-2)	33.5	31.4	38.5	27.6
Secondary (ISCO 3-4)	42.4	43.8	12.4	45.1
Higher (ISCO 5-7)	10.4	14.5	0.3	9.1
No data			0.4	0.3

Source: SSO, Labour Force Survey 2005 and 2011, UNDP Research on Roma in 2011

T-13.2 Population aged 25-64, by highest level of education completed

	LFS 2011	RR 2011	
		Roma	Non-Roma
No education or incomplete primary education	6.7	48.3	12.2
Primary (ISCO 1-2)	29.6	39.9	27.7
Secondary (ISCO 3-4)	46.2	11.4	50.1
Higher (ISCO 5-7)	17.6	0.1	9.7
No data		0.3	0.3

Source: SSO, Labour Force Survey 2011, UNDP Research on Roma in 2011

Indicator ED4 - Roma children attending preschool education

T-15: Children in preschool education, total and Roma

School year	Number of public institutions	Children		Net rate (children 0-6)		Roma children	Roma children (% of total)	Roma children, annual increase
		Total	Girls	Total	Girls			
2005/2006st	51	20967	10268	12.36	12.51	..	..	..
2006/2007st	51	21525	10622	12.39	12.66	..	..	..
2007/2008st	51	20564	10136	12.78	13.01	..	..	..
2008/2009st	51	21711	10803	13.64	14.01	284	1.3	..
2009/2010	52	22213	10896	13.95	14.13	364	1.6	28.2

School year	Number of public institutions	Children		Net rate (children 0-6)		Roma children	Roma children (% of total)	Roma children, annual increase
		Total	Girls	Total	Girls			
2010/2011	54	23157	11427	14.45	14.76	304	1.3	-16.5
2011/2012	54	25056	12254	15.69	15.86	501	2.0	64.8
2012/2013	57	26885	13081	16.72	16.86	524	1.9	4.6

Source: SSO annual publications: Public Institutions for Care and Education, Kindergartens

Indicator ED5 - Roma children attending primary school

T-16.1: Students in regular primary school, total and Roma

School year	Students		Roma students		Net rate (students aged 6-14)		Roma students' share in the total number (%)		GPI (female students per 100 male students)	
	Total	Female students	Total	Female students	Total	Female students	Total	Female students	Total in the RM	Total Roma
2004/2005	223876	108623	8248	4015	92.97	92.94	3.7	3.7	94.2	94.8
2005/2006	235185	114414	9267	4290	90.53	92.94	3.9	3.7	94.7	86.2
2006/2007	228207	110694	9603	4533	91.26	90.99	4.2	4.1	94.2	89.4
2007/2008	220833	107054	9785	4755	90.74	90.82	4.4	4.4	94.1	94.5
2008/2009	215078	104012	10187	4938	90.96	90.84	4.7	4.7	93.6	94.1
2009/2010	208980	101150	10037	4950	91.41	91.44	4.8	4.9	93.8	97.3
2010/2011	201914	98006	9933	4835	91.11	91.23	4.9	4.9	94.3	94.8
2011/2012	197859	96367	9531	4696	90.73	90.85	4.8	4.9	95.0	97.1
2012/2013					90.72	90.77				

Source: SSO publications "Primary and Secondary Schools at the End of the School Year", and in terms of net rates, publications "Primary and Secondary Schools at the Beginning of the School Year"

T-16.2: Roma students in regular primary school, according to DPDEECM records

School year	Total	Boys	Girls	GPI
2005/06	8409	4469	3940	88.2
2006/07	8381	4441	3940	88.7
2007/08	10150	5268	4882	92.7
2008/09	10571	5421	5130	94.6
2009/10	10753	5528	5225	94.5
2010/11	10513	5410	5103	94.3
2011/12	9924	5103	4821	94.5
2012/13	9874	4979	4899	98.4

Source: DPDEECM

T-16.3: Roma students enrolled in the first grade, according to DPDEECM records

School year	Total	Boys	Girls	GPI
2005/06	1356	685	671	98.0
2006/07	1369	715	654	91.5
2007/08	1481	782	699	89.4
2008/09	1672	839	833	99.3

School year	Total	Boys	Girls	GPI
2009/10	1483	754	729	96.7
2010/11	1321	716	605	84.5
2011/12	1299	693	606	87.4
2012/13	961	475	486	102.3

Source: DPDEECM

Indicator ED6 - Roma students that have completed primary education

T-17: Students that have completed regular primary education, total and Roma

School year	Total	Female students	Roma	Roma female students	GPI total	GPI Roma
2004/2005	28816	13893	627	298	93.1	90.5
2005/2006	28993	14276	685	353	97.0	106.3
2006/2007	27747	13553	707	348	95.5	96.9
2007/2008	27046	13239	673	320	95.9	90.7
2008/2009	26915	13092	709	334	94.7	89.1
2009/2010	25730	12316	739	354	91.8	91.9
2010/2011	24512	11969	727	352	95.4	93.9
2011/2012	23786	11642	713	356	95.9	99.7

Source: SSO, publications "Primary and Secondary Schools at the End of the School Year"

Indicator ED7 - Roma students attending secondary school

T-18.1: Students in secondary education, total and Roma

School year	Students		Roma students		Net rate (students aged 15-18)		Roma students (%)		GPI (%)	
	Total	Female	Total	Female	Total	Female	Total	Female	Total	Female
2004/2005	94053	44701	872	333	70.03	67.95	0.9	0.7	90.6	61.8
2005/2006	93908	44530	1220	508	70.25	67.59	1.3	1.1	90.2	71.3
2006/2007	93763	44334	1297	576	67.46	65.80	1.4	1.3	89.7	79.9
2007/2008	92753	44387	1304	606	67.32	65.31	1.4	1.4	91.8	86.8
2008/2009	93164	44643	1461	677	68.32	66.54	1.6	1.5	92.0	86.4
2009/2010	94284	45725	1628	768	69.61	68.86	1.7	1.7	94.2	89.3
2010/2011	92848	44773	1636	766	71.16	70.38	1.8	1.7	93.1	88.0
2011/2012	91167	43760	1654	746	72.29	71.49	1.8	1.7	92.3	82.2

Source: SSO publications "Primary and Secondary Schools at the End of the School Year", and in terms of net rates, publications "Primary and Secondary Schools at the Beginning of the School Year"

T-18.2: Roma students enrolled in secondary school, according to DPDEECM records

School year	Total	Male	Female	GPI
2005/06	1240	654	586	89.6
2006/07	1204	678	526	77.6
2007/08	1472	831	641	77.1
2008/09	...	...	...	...
2009/10	1954	1054	900	85.4
2010/11	1698	918	780	85.0
2011/12	1723	974	749	76.9

| 2012/13 | 1916 | 1056 | 860 | 81.4 |

Indicator ED8 - Roma students that have completed secondary education

T-19: Students that have completed regular secondary education, total and Roma

School year	Students		Roma students		Roma students (%)		GPI (%)	
	Total	Female	Total	Female	Total	Female	Total	Roma
2004/2005	21999	10722	150	65	0.7	0.6	95.1	76.5
2005/2006	22947	10977	270	94	1.2	0.9	91.7	53.4
2006/2007	22910	10970	262	92	1.1	0.8	91.9	54.1
2007/2008	22113	10691	276	99	1.2	0.9	93.6	55.9
2008/2009	21862	10455	310	141	1.4	1.3	91.7	83.4
2009/2010	22355	10951	289	115	1.3	1.1	96.0	66.1
2010/2011	22143	10669	300	154	1.4	1.4	93.0	105.5
2011/2012	22647	10964	332	140	1.5	1.3	93.8	72.9

Indicator ED14 - Roma university students

T-25: University students, Republic of Macedonia's nationals, total and Roma

Academic year	Students		Roma students		Roma students (%)		GPI (%)	
	Total	Female	Total	Female	Total	Female	Total	Roma
2004/2005	49083	27849	103	57	0.2	0.2	131.2	123.9
2005/2006	48181	27291	140	71	0.3	0.3	130.6	102.9
2006/2007	56143	30703	186	80	0.3	0.3	120.7	75.5
2007/2008	62935	33672	184	86	0.3	0.3	115.1	87.8
2008/2009	62157	33069	233	113	0.4	0.3	113.7	94.2
2009/2010	56788	30036	205	103	0.4	0.3	112.3	101.0
2010/2011	63250	33583	212	104	0.3	0.3	113.2	96.3
2011/2012	58747	31233	...	...	...	...	113.5	...
2012/2013	56906	31005	...	...	...	.	119.7	...

Indicator ED15-University graduates, Republic of Macedonia's nationals, total and Roma

T-26: University graduates, Republic of Macedonia's nationals, total and Roma

Academic year	Students		Roma students		GPI	
	Total	Female	Total	Female	Total	Female
2004/2005	5010	3220	7	6	179.9	600.0
2005/2006	5397	3565	6	3	194.6	100.0
2006/2007	6213	4028	7	3	184.3	75.0
2007/2008	8360	5142	13	7	159.8	116.7
2008/2009	10838	6486	30	16	149.0	114.3
2009/2010	10232	5911	28	17	136.8	154.5
2010 /2011	9944	5611	35	20	129.5	133.3

2011 /2012 | 9802 | 5538 | 22 | 11 | 129.9 | 73.3

Source: SSO publication "University Graduates"

Indicator ED18 Roma teachers and other professional associates in levels of education (pre-school, primary, secondary, higher)

T-29.2: Teachers and other professional associates in primary education, total and Roma

School year	Teachers and other professional associates		Roma teachers and other professional associates		Roma teachers and other professional associates (%)		GPI (%)	
	Total	Female	Total	Female	Total	Female	Total	Female
2004/2005	14600	8611	15	8	0.10	0.09	143.8	114.3
2005/2006	15548	9665	15	8	0.10	0.08	164.3	114.3
2006/2007e	15769	9839	18	8	0.11	0.08	165.9	80.0
2007/2008	15691	9820	21	11	0.13	0.11	167.3	110.0
2008/2009	16205	10359	20	9	0.12	0.09	177.2	81.8
2009/2010	16403	10703	24	12	0.15	0.11	187.8	100.0
2010/2011	16946	11092	29	16	0.17	0.14	189.5	123.1
2011/2012e	**17233**	**11382**	**32**	18	0.19	0.16	194.5	128.6

Source: SSO publications "Primary and Secondary Schools at the End of the School Year"

T-29.3 Teachers and other professional associates in secondary education, total and Roma

School year	Teachers and other professional associates		Roma teachers and other professional associates		Roma teachers and other professional associates (%)		GPI (%)	
	Total	Female	Total	Female	Total	Female	Total	Female
2004/2005	6169	3526	2	1	0.03	0.03	0.03	100.0
2005/2006	6369	3594	4	2	0.06	0.06	0.06	100.0
2006/2007	6530	3712	3	1	0.05	0.03	131.7	50.0
2007/2008	6438	3714	3	2	0.05	0.05	136.3	200.0
2008/2009	7100	4137	4	3	0.06	0.07	139.6	300.0
2009/2010	7318	4263	2	2	0.03	0.05	139.5	
2010/2011	7530	4467	4	3	0.05	0.07	145.8	300.0
2011/2012	7640	4493	4	3	0.05	0.07	142.8	300.0

Source: SSO publications "Primary and Secondary Schools at the End of the School Year"

Indicator ED20 Computer literacy

T-31: Text-processing computer use, by age groups, (%)

	Roma	Non-Roma
6-24	39.4	77.1
25-34	26.5	64.3
35-44	17.3	56.0
45+	8.6	21.7
Total	25.8	49.9

Source: UNDP, Regional Roma Research in 2011

3.3 Indicators of Health and Health Care

The main source of health statistics data is the Institute of Public Health that is also responsible for the implementation of the Statistical Programme Part related to the periods 2008-2012 and 2013-2017[21] in terms of health surveys. Some data is provided by the SSO as well, but it is more related to the vital statistics data (births and deaths), population estimates by gender and age and population's educational structure. In vital statistics surveys, there is the ethnicity tag, so SSO can provide the proposed indicators by an additional existing research analysis.

The amendments to the Law on Health Records[22] stipulated keeping records of ethnicity. However, the implementation of the Law goes slowly, so not always can the data retrieved from medical records contain information on ethnicity for the purposes of health statistics. Changes in health records, in addition to legal aspects, should take care of arranging information resources, as well. This means that it will take a lot of resources (time, finances, staff) to settle the situation with health records. These resources cannot be provided by the DRI to calculate the relevant health indicators for DRI M&E.

To calculate the indicators for the period from 2005 to 2012, the SSO data was mainly used, i.e. vital statistics on births and deaths, the health section of the new SILC Survey, UNICEF 2005 and 2010 MISC Surveys regarding children, UNDP Roma Reserach in 2004 and 2010 and the Survey regarding "Health, Health Care and Influences on Roma Health in Macedonia" conducted by the Association for Emancipation, Solidarity and Equality of Women in the RM-ESE and several non-governmental organizations in 2007, with a new round in 2012.

The proposed Indicator List covers demographic factors, health status, determinants of health and health services.

For the purpose of M&E of the DRI in the area of health care, the following indicators are proposed[23], [24], [25],[26]:

T-32 : List of healthcare indicators

	Tag	Name	Source
1	**H1**	Health insurance rate among Roma	RR2011,
2	**H2**	Access to health services	SILC, RR2011
3	**H3**	Personal opinion about one's general health	SILC, RR2011
4	**H4**	Prevalence of chronic diseases	SILC, RR2011, ESE 2007
5	**H5**	Unmet need for medical examination or treatment	SILC, RR2011
6	**H6**	Mortality rate of infants and children under 5	SSO

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[21] Programme of Statistical Surveys for 2008-2012, Official Gazette no. 11/2008, pp. 394 -434

[22] Law Amending the Law on Health Records "Official Gazette", no. 53/2011, Article 6, line 3 and a consolidated unofficial version of the bill: http://zdravstvo.gov.mk/wp-content/uploads/2012/12/evidencii-vo-oblasta-na-zdravstvoto-precisten.pdf, accessed on 10 November, 2013

[23] World Health Organization Indicators http://www.who.int/infobase/help.aspx?typecode=hp.tc.001

[24] EU System of Indicators for Healthcare Monitoring, http://www.echim.org

[25] Compendium for international health indicators, http://www.healthindicators.org/ICHI/general/startmenu.aspx

[26] "Measuring up: closing the health gap - health indicators for the Decade of Roma Inclusion", 2007, Roma Health Project, OSI

7	**H7**	Low birth weight	MICS 3 and 4
8	**H8**	Children vaccination rate	RR2011, MICS 3 and 4
		List of Indicators from the Health NAP	

3.3.1 Definition of Indicators

Health insurance rate among Roma - Share of people who have health insurance compared to the researched population.

Access to health services - Share of persons having access to health services compared to the researched population.

Prevalence of chronic diseases -

Infant mortality rate - Infant deaths before reaching the age of one compared to all live births in that year.

Mortality rate of children under 5 - Deceased children who have not reached their fifth birthday compared to all children under 5.

Low birth weight - A live born child with a birth weight of under 2500 g.

Children vaccination rate - Share of vaccinated children under 6 years of age compared to all children under 6, according to a prescribed list of vaccines.

3.3.2 Indicators Calculated

Indicator H1. Health insurance rate among Roma

T-33: Health insurance rate among Roma, (%)

	RR 2011		ESE 2008
Health insurance	Roma	Non-Roma	Roma
Has health insurance	92	97	90
-on their own name	62	69	...
- on the name of another family member	29	27	...
Has no health insurance	8	3	10

Sources: UNDP, Regional Roma Research in 2011 - RR 2011, Survey on Roma Health, ESE 2007

Indicator H2. Access to health services

T-34: Access to health services, (%)

	RR 2011	
	Roma	Non-Roma
Access to health services	93	95

Source: UNDP, Regional Roma Research in 2011 - RR 2011

Indicator H3. Personal opinion about one's general health

T-35: Personal opinion about one's general health, structure (%)

	SILC 2010	RR 2011	
	All households	Roma	Non-Roma
How would you rate your general health?	100.0	100.0	100.0
Very good	31.3	40.2	42.8
Good	42.3	35.2	37.3
Satisfactory	15.9	9.9	11.5
Bad	8.6	10.4	6.4
Very bad	1.8	3.8	1.7
	100.0	100.0	100.0
Do you have any chronic (long-term) disease?			
Yes	13.4	16.0	10.8
No	86.6	83.2	88.9
Do health problems that last at least for 6 months hamper your everyday activities?	100.0	100.0	100.0
Yes, greatly	5.8	5.2	3.0
Yes, to a limited extent	6.6	10.0	8.7
No, to an unlimited extent	87.6	83.4	87.0

Sources: SSO for SILC 2010 and UNDP RR 2011

Indicator H4. Prevalence of chronic diseases

T-36: Prevalence of chronic diseases, (%)

	RR 2011						ESE 2007
	Total		Male		Female		
Chronic diseases	Roma	Non-Roma	Roma	Non-Roma	Roma	Non-Roma	Roma
Asthma	7.9	4.5	7.5	6.2	8.1	3.3	7.1
Chronic bronchitis, chronic obstructive pulmonary disease (COPD)	13.8	8.1	9.3	6.2	16.9	9.4	12.1
Hypertension (high blood pressure)	26.8	26.0	24.6	19.2	28.3	30.7	33.0
Long-term problems with muscles, bones, joints (rheumatism, arthritis)	28.7	31.0	25.5	21.2	30.8	37.7	..
Chronic anxiety or depression	19.4	11.5	13.1	8.2	23.8	13.7	..
Diabetes	6.9	6.7	6.5	8.2	7.1	5.7	7.8

Sources: UNDP, Regional Roma Research 2011 - RR 2011, Survey on Roma Health, ESE 2007

Indicator H5. Unmet need for medical examination or treatment

T-37: Unmet need for medical examination or treatment, structure (%)

	SILC 2010	RR 2011	
	All households	Roma	Non-Roma
Did you, over the last 12 months, have a need for medical examination or treatment but did not see a doctor?			
	100.0	100.0	100.0
Yes, there was at least one such case	14.9	35.5	23.7
No, there was no such case	85.1	63.3	74.3
What was the main reason why you did not have a medical examination or treatment?			
	100.0	100.0	100.0
I can not afford it (it is very expensive)	68.3	76.1	64.7
Too long to wait for examination and treatment	6.2	5.4	5.9
I cannot find time due to work commitments, looking after the children etc.	4.8	2.1	14.1
Excessive distance (no means of transport)	2.9	1.4	0.0
Fear of doctors, hospitals, examinations, treatment	2.6	1.1	2.4
I am waiting for the health problem to improve by itself	11.3	7.5	8.2
I don't know a good doctor or specialist	..	0.4	1.2
Other reasons	3.5	4.6	3.5

Sources: 1. SSO SILC 2010; 2. UNDP RR 2011

Indicator H6. Mortality of infants and children under 5

T-38.1: Mortality of infants and children under 5

Year	Infant mortality		Children under 5	
	Total	Roma	Total	Roma
2000	11.8	18.5	13.6	...
2001	11.9	19.3	13.6	...
2002	10.2	11.5	11.8	...
2003	11.3	13.9	12.9	...
2004	13.2	19.4	14.8	...
2005	12.8	19.3	14.4	...
2006	11.5	27.3	12.9	...
2007	10.3	13.1	11.6	...
2008	9.7	12.8	10.9	...
2009	11.7	13.2	13.3	...
2010	7.6	7.8	8.3	...
2011	7.6	10.2	8.6	...
2012	9.8	11.6	11.1	...

Source: SSO, Statistics of deaths

T-38.2. Mortality rate of infants and children under 5 in 2005 and 2011, according to official statistics and MICS Surveys

Year and source of data	Rate of infant mortality		Mortality rate of children under 5	
	Total	Roma	Total	Roma
2005 (SSO)	12.8		14.4	
2005 (MICS3)	16.0	..	17.0	..
2011 (SSO)	7.6	10.2	8.6	
2011 (MICS4)	..	13.0	..	14.0

Source: SSO, Statistics of deaths; 2.UNICEF Surveys MICS3 and MICS4

Indicator H7. Low birth weight
T-39: Low birth weight, (%)

	2005	2011
Total	6.4	5.5
Roma	6.9	11.2

Source: UNICEF Surveys MICS3 and MICS4

Indicator H8. Children vaccination
T-40: Coverage of vaccinated children aged 18-29 months, according to their vaccination cards or health records, (%)

	2005*	2011
Total	75.5	91.3
Roma	66.4	83.6

Source: MICS 3 and MICS 4 *) data is not fully compatible, because Lists of Vaccines are different in 2005 and 2011

3.4 Indicators of Housing and Living Conditions

Regional surveys conducted by UNDP in 2004 and 2011, data from SILC Survey in 2010 and data from the Ministry of Transport and Communications are used as sources regarding the annual activities in the implementation of the NAP on Housing. Data from Censuses is usually not published and processed according to the DRI needs.

Regarding the M&E of the DRI in the area of housing, the following List of Indicators is proposed:

T-41:. List of Indicators of Housing and Living Conditions

	Tag	Name	Source
1	**HO1**	**Changes in the immediate environment**	RR2011
2	**HO2**	**Regularity of garbage collection**	RR2011,
3	**HO3**	**Average number of rooms per household**	RR2011, SILC2010, Census
4	**HO4**	**Population with no access to water supply**	RR2011, SILC2010, Census
5	**HO5**	**Population with no shower or bath inside the dwelling**	RR2011, SILC2010, Census
6	**HO6**	**Population with access to electricity grid**	RR2011, Census
7	**HO7**	**Energy sources for heating and cooking**	RR2011, Census
8	**HO8**	**Supply of households with durable goods**	RR2004, RR2011 HBS2005, HBS2011,

9	**HO9**	**Material Deprivation Index**	RR2011, SILC2010,
10	**HO10**	**Gini Coefficient**	RR2011, SILC2010,
11	**HO11**	**Richest 20% to poorest 20% ratio**	RR2011, SILC2010, Census
		List of Housing NAP Indicators	

3.4.1 Definition of Indicators

Data from UNDP sample surveys on Roma is not weighted, but it is processed directly from the sample. Therefore, definitions of indicators relate to persons/households surveyed in the sample, and not to the total population.

Data from sample surveys HBS and SILC, conducted by the SSO is weighted and estimated for the total population. In this case, the definitions of indicators refer to all persons of the total population.

Changes in the immediate environment – Share of household persons in the total number of people from surveyed households who consider that there have been changes in their environment in the last 5 years.

Regularity of garbage collection – share of household persons in the total number of people from households surveyed on garbage collection frequency.

Average number of rooms per household - The number of rooms in all surveyed households divided by the number of households surveyed. The number of rooms does not include the following: kitchen, corridor, bathroom and room that is rented or used by another household.

Average number of rooms per household member - The number of all rooms in surveyed households divided by the number of all members of surveyed households.

Population with no access to water supply - Share of household persons without access to water supply in the total number of people from surveyed households.

Population with no shower or bath inside the dwelling - Share of household persons with no access to a shower or a bath inside the dwelling in the total number of people from surveyed households.

Population with access to electricity grid - Share of persons from households with no access to electricity grid in the total number of people from surveyed households.

Energy sources for heating - Share of household persons in the total number of people from households surveyed in terms of their use of certain types of energy for heating.

Energy sources for cooking - Share of household persons in the total number of people from households surveyed in terms of their use of certain types of energy for cooking.

Possession of household goods - Share of household persons in the total number of people from households surveyed in terms of their possession of certain household goods.

Material Deprivation Index - Share of household persons in the total number of people from households surveyed in terms of their difficulty to meet at least 3 of the 9 household needs:

1. Payment of at least one of the following expenses:
   - Loans to purchase or renovate the dwelling, rent
   - Utility bills (water, electricity and heating)
   - Non-housing loan installments
2. Weeklong vacation during the year;
3. Eating meat, fish or adequate vegetarian dishes every other day;
4. Facing an unexpected expense, and being able to pay for it from one's own funds;
5. Possession or use of a telephone (including a mobile one);
6. Possession or use of a colour television;
7. Possession or use of a washing machine;
8. Possession or use of a car (including a company car used for personal needs); and
9. Adequate heating of one's home.

Severe material deprivation - Share of household persons in the total number of people from households surveyed in terms of their difficulty to meet at least 4 of the 9 household needs specified in the Material Deprivation Needs List.

Gini Coefficient - refers to the unequal income distribution and is the most commonly used measure of inequality. The coefficient varies between 0 and 1. Zero indicates complete equality and 1 indicates complete inequality, i.e. one person has the entire income or consumption, and the others possess nothing.

Richest 20% to poorest 20% ratio - shows the uneven income distribution between the richest 20% of people surveyed and the poorest 20%.

3.4.2 Indicators Calculated

Indicator H01. Changes in the immediate environment

T-42: Changes in the immediate environment in the last 5 years, (%)

	RR2011	
	Roma	Non-Roma
Changes in the immediate environment **(%)**	13	17

Source: UNDP, Regional Research in 2011

Indicator H02. Regularity of garbage collection

T-43: Household persons by their opinion on regularity of garbage collection (%)

	RR2011	
	Roma	Non-Roma
At least every week	53	70
At least every two weeks	6	4
Irregularly	23	17
Never	18	10

Source: UNDP, Regional Research in 2011 - RR 2011

Indicator H03 - Average number of rooms per household

T-44: Average number of rooms per household

	SILC2010	RR2011	
	All households	Roma	Non-Roma

Average number of household rooms	3.3	2.5	3.4
Average number of rooms per household member	1.2	0.66	1.15
Average dwelling area (m2)	---	53.6	78.6

Source: 1. SSO - SILC 2010; 2. UNDP - RR2011

Indicator H04 - Population with no access to water supply

T-45: Population with no access to water supply, (%)

	RR2011	
	Roma	Non-Roma
Population with no access to water supply	3	0

Source: UNDP - Regional Research in 2011 - RR2011

Indicator H05 - Population with no shower or bath inside the dwelling

T-46: Population with no shower or bath inside the dwelling, (%)

	RR2011	
	Roma	Non-Roma
Population with no shower or bath inside the dwelling	10	2

Source: UNDP - Regional Research in 2011 - RR2011

Indicator H06 - Population with access to electricity grid

T-47: Population with access to electricity grid

	RR2011	
	Roma	Non-Roma
Population with access to electricity grid	97	95

Source: UNDP - Regional Research in 2011 - RR2011

Indicator H07. Energy sources for heating and cooking

T-48: Energy sources for heating and cooking, (%)

	Heating		Cooking	
	Roma	Non-Roma	Roma	Non-Roma
Gas in cylinders	0	0	3	9
Gas from gas pipeline	0	0	0	0
Electricity	19	18	70	78
Coal	1	0	0	0
Firewood	81	80	27	13
Oil	0	0		
Central heating	0	1		
Other	0	0		

Source: UNDP - Regional Research in 2011 - RR2011

Indicator H08 - Supply of households with durable goods

T-49: Structure of household supplies with durable goods, (%)

Types od durable goods	HBS		RR2004		RR2011	
	2005	2010	Roma	Non-Roma	Roma	Non-Roma
Washing machine	85	89	60	90	34	71
Radio	44	34	..	..	54	73
Colour TV	95	97	..	..	95	99
TV (unspecified kind)	..	..	95	98	..	..
Personal computer connected to the Internet	17	47	..	..	..	..
Personal computer	..	..	3	22	32	69
Internet connection	..	..	1	11	26	62
Mobile phone	68	82	..	..	80	93
Telephone (unspecified kind)	..	..	66	87	..	..
Bicycle	41	39	..	..	30	55
Passenger car	50	53	9	55	10	51
30 and more books	..	..	11	55	12	48
A bed for each household member	..	..	42	89	53	86

Sources: 1. SSO, Household Budget Survey (HBS) in 2005 and 2010; 2. UNDP - Regional Research in 2004 and 2011 - RR2004 RR2011

Indicator H09 - Material Deprivation Index

T-50: Material Deprivation Index, (%)

	RR2011		SILC 2010
	Roma	Non-Roma	
Materially deprived persons	97	74	
Severely materially deprived persons	92	64	35

Sources: 1. SSO, SILC in 2010; 2. UNDP - Regional Research in 2011-RR2011

Indicator H10 - Gini Coefficient

T-51: Gini Coefficient

	RR2011		SILC 2010
	Roma	Non-Roma	
Gini Coefficient	0.40	0.38	0.41

Sources: 1. SSO, SILC in 2010; 2. UNDP - Regional Research in 2011-RR2011

Indicator H11- Richest 20% to poorest 20% ratio

T-52: Richest 20% to poorest 20% ratio

	RR2011		SILC 2010
	Roma	Non-Roma	
Richest 20% to poorest 20% ratio	10.2	8.6	10.3

Sources: 1. SSO, SILC in 2010; 2. UNDP - Regional Research in 2011-RR2011

3.5 Indicators of Employment (Economic Activity)

Institutions responsible for data on employment are the SSO and ESA. SSO is responsible for statistical data and ESA is responsible for administrative data.

SSO provides data through its Labour Force Survey (LFS) and Censuses of Population, Households and Dwellings, while ESA does this through processing of data from proscribed administrative records.

Since 1996, SSO has been conducting the Labour Force Survey (LFS)[27] on a representative sample of 10,000 households, according to the International Labour Organization (ILO) standards. Labour Force Survey is one of the primary sources of information on the main categories of labour force - employed people, unemployed and inactive population, their structure and development tendencies. LFS can serve as a source of data for monitoring the economic activity of Roma and for calculation of the relevant indicators in the area of employment for the DRI. So far, data on Roma and other vulnerable groups has not been presented. LFS is a sample-based survey, so sample errors and the reliability of data relating to small groups of people in the total sample have to be taken into account.

Population Censuses are the largest sources of data on the economic activity of both the entire population and Roma, but so far, there have been no detailed analyses of data on Roma that could be compared to the other non-Roma population or the total population.

Legal regulations on records in the area of labour[28] envisage keeping data on ethnicity of both employed and unemployed persons. Under the Law on Personal Data Protection, such data can be processed for statistical purposes. This enables ESA to also statistically process records established by ethnicity. Databases ensure obtaining data on age, level of education, period of waiting for employment, involvement in various programs for vocational training and retraining, employment and so on. In this way, one can follow administrative unemployment among Roma in the long run, as well as various retraining activities and employment benefits implemented through the Employment NAP.

For the purposes of DRI indicators calculation for the period 2004-2012, Regional Research conducted by UNDP on Roma in 2004 and 2011, LFS data on the total population and ESA administrative data is used. Data is presented in one place, but should be used carefully, because studies have been conducted using different methodologies and direct comparison is difficult. To monitor the area of employment, the following indicators are proposed:

T-53. List of Employment Indicators

	Tag	Name	Source
1	**EM1**	Structure of working-age population, employed and unemployed people, by gender and the highest education level attained	LFS, RR2011
2	**EM2**	Employment rate	Population Censuses, LFS, RR2011
3	**EM3**	Unemployment rate	Population Censuses, LFS, RR2011

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[27] Labour Force Survey 2007, SSO, Methodological Explanations p.8, Statistical Review 2.4.8.06/593, SSO 2008

[28] Law on Records in the Area of Labour, Official Gazette 16/2004, Articles 8 and 18

4	**EM4**	Activity rate	LFS, RR2011
5	**EM5**	Long-term unemployment rate and share of long-term unemployment in total unemployment	LFS, RR2011
6	**EM6**	Self-employment rate	LFS, RR2011
7	**EM7**	Share of informal employment in total employment (incidence)	LFS, RR2011
8	**EM8**	Rate of previously gained work experience	LFS, RR2011
9	**EM9**	Administrative unemployment	ESA
		List of Employment NAP Indicators	MLSP, NAP on Employment

It is recommended thet each indicator be disaggregated by:
- gender and age groups (15-24, 20-64, 25-64, 15-64, 55-64, 65+); and
- by gender and the highest level of education completed.

3.5.1 Basic Concepts and Definitions of Indicators

The International Labour Organisation (ILO) is responsible for the standardization of statistical data on economic activity. Statistical data in the Republic of Macedonia is standardized according to the recommendations by ILO and EUROSTAT and thus, international comparability has been achieved.

Standards used by EUROSTAT for the EU purposes are somewhat more restrictive and stricter compared to the ILO standards.

Working-age population comprises all persons aged 15-79. Sometimes, the population aged 15-64 is analyzed, as appropriate.

Economically active population comprises both employed and unemployed people (labour force).
Employed persons are people aged 15 and over who:
- worked for money (in cash or in kind) or for profit, for at least 1 hour during the reporting week;
- were absent from the workplace temporarily (due to illness, absence, studies, interruption of business entity's activity etc.), but were formally employed during the reporting week;
- assisted their family farm or family business without pay.

For international comparison of employment, the population aged 15-64 is also analyzed.

Own-account workers (self-employed) - People who have their own business, are sole traders or work on a farming estate in order to generate income, while not employing others;

The unemployed, according to EUROSTAT recommendations, include persons aged 15 to 74 who meet the following three conditions:
- did not work (according to the above criteria) during the reporting week;
- were actively seeking employment, i.e. were taking specific activity to find a job;
- were willing to accept a job in the next 2 weeks after the reporting week.

Activity rate is the labour force share in the working-age population aged 15 and over;

Employment rate:

- according to the ILO recommendations, is the share of employed persons in the working-age population aged 15 and over;
- according to the recommendations of the European Statistical Office (EUROSTAT), it is the share of employed persons in the working-age population aged 15 to 64;

Unemployment rate is the share of unemployed persons in the total labour force.

Long-term unemployment rate is the share of unemployed people looking for a job for more than one year in the working-age population aged 15 and over.

Share of long-term unemployment in total unemployment (incidence) is the share of unemployed pople seeking a job for more than one year in the unemployed population.

Self-employment rate is the share of self-employed persons in the working-age population.

Administrative unemployment is the number of persons registered as unemployed in the Employment Service Agency administrative records.

3.5.2 Indicators Calculated

Indicator EM1-3. Structure of working-age population, i.e. employed and unemployed persons by gender and the highest education level attained

T-54.1: Structure of working-age population, i.e. employed and unemployed persons by gender and the highest education level attained, (%)

Highest education level attained	Working-age population			Employed			Unemployed		
	RR 2011		LFS 2010	RR 2011		LFS 2010	RR 2011		LFS 2010
	Roma	Non-Roma	Total	Roma	Non-Roma	Total	Roma	Non-Roma	Total
No education and incomplete primary	48.4	17.9	11.0	36.5	6.5	4.4	40.6	12.3	4.5
Primary	38.5	27.6	32.0	42.1	19.9	20.4	44.4	24.6	29.0
Secondary	12.4	45.1	44.0	20.8	58.7	53.7	13.9	50.9	53.8
College, higher+	0.3	9.1	13.0	0.4	14.9	21.5	0.9	12.3	12.7

Sources: 1. SSO LFS 2010, 2.UNDP - Regional Research in 2011-RR2011

T-54.2 : Structure of the female working-age population, i.e. employed and unemployed people by gender and the highest education level attained, (%)

Highest education level attained	Female working-age population			Employed women			Unemployed women		
	RR 2011		LFS 2010	RR 2011		LFS 2010	RR 2011		LFS 2010
	Roma	Non-Roma	Total	Roma	Non-Roma	Total	Roma	Non-Roma	Total
No education and incomplete primary	56.3	22.5	15.4	45.6	4.7	5.6	44.1	11.9	4.6
Primary	34.6	29.6	34.8	36.0	16.5	17.6	41.5	30.5	23.8
Secondary	8.5	37.9	37.8	18.3	59.1	50.9	13.1	40.7	53.7
College, higher+	0.2	9.6	12.2	0.1	19.7	25.9	0.9	16.9	17.9

Sources: 1. SSO LFS 2010, 2.UNDP - Regional Research in 2011-RR2011

T-54.3 Structure of the male working-age population, i.e. employed and unemployed people by gender and the highest education level attained, (%)

Highest education level attained	Male working-age population			Employed men			Unemployed men		
	RR 2011		LFS 2010	RR 2011		LFS 2010	RR 2011		LFS 2010
	Roma	Non-Roma	Total	Roma	Non-Roma	Total	Roma	Non-Roma	Total
No education and incomplete primary	40.6	12.8	3.9	33.9	7.4	3.6	38.1	12.7	4.4
Primary	42.2	25.4	25.4	43.9	21.9	22.1	44.6	18.2	32.3
Secondary	16.2	53.0	54.9	21.5	58.5	55.4	14.5	61.8	53.8
College, higher+	0.5	8.5	15.7	0.5	12.2	18.8	0.9	7.3	9.4

Indicators EM4, EM2 and EM3 - Rates of activity, employment and unemployment

T-55: Rates of activity, employment and unemployment by gender and age

	Age	Activity rate			Employment rate			Unemployment rate		
		RR2011		LFS2010	RR2011		LFS2010	RR2011		LFS2010
		Roma	Non-Roma	Total	Roma	Non-Roma	Total	Roma	Non-Roma	Total
Total	15-24	35.9	25.3	33.3	12.0	11.3	15.4	66.5	55.4	53.7
	20-64	49.1	53.9	70.3	25.7	41.6	48.1	47.5	22.9	31.6
	15-64	45.2	49.1	64.2	22.9	37.1	43.5	49.3	24.4	32.2
	15+	42.9	42.3	56.9	21.7	32.0	38.7	49.3	24.3	32.0
Female	15-24	24.2	21.5	24.0	4.5	8.3	11.2	81.3	55.4	53.3
	20-64	30.9	41.3	55.4	11.5	29.2	37.5	62.7	22.9	31.3
	15-64	29.3	37.7	50.4	10.4	25.7	34.0	64.6	24.4	32.5
	15+	27.7	32.0	44.0	9.8	21.9	29.8	64.7	24.3	32.2
Male	15-24	46.3	30.0	42.2	18.7	15.0	19.5	59.6	50.0	53.9
	20-64	66.6	67.3	85.0	39.5	54.7	58.4	40.7	18.8	32.2
	15-64	60.4	61.4	77.7	34.9	49.5	52.8	42.2	19.5	32.1
	15+	57.5	53.6	69.8	33.3	43.2	47.5	42.1	19.4	31.9

Source: 1. UNDP - Research on Roma RR 2011; 2. SSO for LFS 2010 on the total population

Indicator EM5. Long-term unemployment rate and share of long-term unemployment in total unemployment

T-56: Long-term unemployment rate and share of long-term unemployment in total unemployment

Long-term unemployment	LFS 2010			RR 2011			
				Roma		Non-Roma	
	Total	Male	Female	Male	Female	Male	Female
Persons aged 15 +, rate (%)	27	27	27				

Persons aged 15 +, share (%)	83	84	83

Source: SSO for LFS 2010 and UNDP Research on Roma - RR 2011

Indicator EM6 - Self-employment rate

T-57: Self-employment rate, (%)

Self-employment rate (%)	LFS 2010			RR 2011			
				Roma		Non-Roma	
	Total	Male	Female	Male	Female	Male	Female
Persons aged 15 +	9	12	3	3	1	5	6
Persons aged 15-24	2	2	0	2	0	0	4

Source: SSO for LFS 2010 and UNDP Research on Roma - RR 2011

Indicator EM7. Informal employment rate and incidence

T-58: Informal employment rate and incidence, (%)

Informal employment (%)	LFS 2011			RR 2011			
				Roma		Non-Roma	
	Total	Male	Female	Male	Female	Male	Female
Persons aged 15 +	25	27	23	62	68	29	19
Persons aged 15-24	47	50	42	73	85	54	30

Source: SSO for LFS 2011 - Table 60 and UNDP Research on Roma - RR 2011

Indicator EM8 - Administrative Roma unemployment by gender and vocational training and education

T-59.1: Administrative Roma unemployment by gender and vocational training and education

	31.12.2010		31.12.2011		31.12.2012	
	Total	Female	Total	Female	Total	Female
Total	15377	6508	14464	6187	9041	3710
Unskilled	13640	6020	12821	5698	7835	3335
Semi-skilled and inadequately skilled	320	58	291	56	229	42
Skilled	745	152	705	154	471	96
High-skilled	1	-	1	-	-	-
Secondary education	619	258	599	262	471	220
College education	4	1	5	1	5	2
University education	46	19	40	16	28	15
MA and MSc	2	-	2	-	2	-
Doctors of Science	-	-	-	-	-	-

Source: ESA of RM, taken from DRI Progress Reports for 2010-2012 period

T-59.2. Structure of administrative Roma unemployment by gender and vocational training and education, %

	2010		2011		2012	
	Total	Female	Total	Female	Total	Female
Total	100.0	100.0	100.0	100.0	100.0	100.0
Unskilled	88.7	92.5	88.6	92.1	86.7	89.9
Semi-skilled and inadequately skilled	2.1	0.9	2.0	0.9	2.5	1.1
Skilled	4.8	2.3	4.9	2.5	5.2	2.6
High-skilled	0.0	0.0	0.0	0.0	0.0	0.0
Secondary education	4.0	4.0	4.1	4.2	5.2	5.9
College education	0.0	0.0	0.0	0.0	0.1	0.1
University education	0.3	0.3	0.3	0.3	0.3	0.4
MA and MSc	0.0	0.0	0.0	0.0	0.0	0.0
Doctors of Science	0.0	0.0	0.0	0.0	0.0	0.0

3.6 List of Recommended DRI Strategy Impact Indicators

As minimum indicators, which are calculated and can reflect and absorb the impact of multiple activities for Roma situation improvement, the following are proposed:

1. Population aged 25-64 by highest level of education completed (sources: LFS and RR);
2. Rate of children enrollment in primary education (source: RR);
3. Infant mortality rate (source: SSO - deaths statistics);
4. Long-term unemployment rate (sources: LFS, RR, ESA);
5. Employment rate (sources: LFS, RR, ESA);
6. Average area in m2 per capita of Roma and non-Roma households and by legalized and informal dwellings (source: RR);
7. Rate of severe material deprivation of persons (source: RR, SILC).

The proposed List applies to the case, if no new Census takes place soon and if Roma Research is continued in the periods 2014-2015, 2018-2019.

4 Recommendations on Improving Data Sources for Indicators Calculation in the Period 2014-2020

1. <u>A key prerequisite for the establishment of a consistent system of indicators is to provide data using comparable methodologies</u>. This will enable complete or at least large comparability of data on Roma and data on the total population or other non-Roma population.

2. <u>The best solution is to conduct a new Census of Population, Households and Dwellings</u>. The Census provides the most comprehensive picture of the demographic and socio-economic features of the population, and thus, of the Roma. A new Census is a prerequisite for high-quality data of surveys conducted by SSO, because Census data shall be used to determine the new framework for the selection of samples and calculations of weights.

3. <u>Regarding the presentation of data on Roma and other vulnerable groups, MLSP together with SSO should require interpretation from the Data Protection Agency and reorganize the entire system of providing data for the DRI accordingly</u>. The current level of statistics presented mostly in terms of "Total Roma" or "Roma by gender" is insufficient in the official statistical system for quality monitoring and evaluation of the DRI and understanding of the true effectiveness of many measures and disbursements. A similar issue is faced in monitoring the Povery Reduction Strategy in terms of monitoring smaller target groups of the total population.

4. Continue the dynamics of conducting research on Roma supported by UNDP and align it with the European Union Agency for Fundamental Rights (FRA) initiatives for EU countries. It is recommended that the new research be in October 2014 or May 2015, where a better date in terms of comparability with the new data on MDGs is October 2014. Next rounds are recommended for the end of 2018 (September-October) or the beginning of 2019 (April-May). Research should be further aligned with the national SILC Survey regarding the Laeken indicators and other indicators of social inclusion.

5. Continue with Roma module in UNICEF's MICS Surveys for the coming period.

6. Support the implementation of Lifestyle Research as a major source of health statistics data and include an additional Roma sample.

7. Intensify the implementation of the Law on Haelth Records by keeping records on ethnicity.

8. Do additional analyses of the 2002 Census, if Recommendation 3 is positively accepted. Additional processing of LFS data for 2005, 2010 and 2015 could be made using the method of mobile environments. The number of Roma in the sample would be increased by using data from 3 years and the result would be the arithmetic mean of 3 years. For example, 2010 data that would be processed for Roma shall be the arithmetic mean of 3 years: 2009, 2010 and 2011. SILC Survey can be processed in a similar way.

9. Support the Directorate for Promotion and Development of Education of Ethnic Community Members in establishing an information system of data on communities' education. In collaboration with SSO, clarify and further define the data collection methodology.

10. Closely relate periodic DRI evaluations with the system of data and indicators.

11. Establish a DRI electronic information system, where indicators will be an integral part. The Information System should contain a public part, where data, activities, issues and achievements will be presented. The DRI Information System should be maintained by the MLSP DRI Department.

12. Update the system of indicators annually, include new indicators as new sources of data are improved and created.