



Spajanje tabličnih podataka u QGIS-u

Kako spojiti tablične podatke preuzete s *weba* sa *shapefile* datotekom u QGIS-u i odabrati željene vrijednosti za prikaz i izvoz

diplomski sveučilišni studij Znanosti o okolišu

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Cilj: preuzimanje tablice s brojčanim vrijednostima iz pouzdanog izvora s weba i spajanje tih vrijednosti s teritorijalnim jedinicama u *shapefile* datoteci. U konačnici, želimo prikazati te kvantitativne podatke pomoću karte.

Trebamo:

- Preuzeti željenu tablicu s interneta
- Pregledati i urediti tablicu
- Preuzeti *shapefile* datoteku pogodnu za spajanje podataka i prikaz željenih vrijednosti
- Napraviti tzv. *join* atributivne tablice iz .shp datoteke i .xlsx tablice na temelju ključnih polja (kolona)
- Izvesti spojene podatke u novu .shp datoteku
- Izraditi kartu s tim podacima (u razredima)

1. Potražite na internetu podatke Eurostata i pretražite ih npr. tematski.

The screenshot shows the Eurostat website interface. The browser address bar displays <https://ec.europa.eu/eurostat/web/main/home>. The main navigation bar includes links for News, Data, Publications, About Eurostat, and Help. The 'Data' menu is expanded, showing options such as Database, Browse statistics by theme (highlighted with a red arrow), Statistics A - Z, Experimental statistics, Bulk download, Web Services, Access to microdata, GISCO:Geographical Information and maps, Metadata, SDMX InfoSpace, and Data validation. The right sidebar features a search bar, a language selector set to English, and a 'Sign In | Register' link. Below the navigation bar, there are sections for ANNOUNCEMENT (COVID-19), NEWS RELEASES, and WHAT'S NEW? (04/04/2020: Visualise air passenger transport in Europe in 2018; 03/04/2020: US and Switzerland: main EU trading partners for medicine). The 'ECONOMIC TRENDS' section displays a line chart for 'Unemployment rate - total (% labour force)' for EU27, showing a value of 6.5 in February 2020.

Home - Eurostat

https://ec.europa.eu/eurostat/web/main/home

Sign In | Register

Legal notice | RSS | Cookies | Links | Contact | English

Type a keyword, a publication title, a dataset title...

News Data Publications About Eurostat Help

European Commission > Eurostat

ANNOUNCEMENT

COVID-19

NEWS RELEASES

WHAT'S NEW?

04/04/2020 Visualise air passenger transport in Europe in 2018

03/04/2020 US and Switzerland: main EU trading partners for medicine

DATA

Most popular tables Complete database Visualisations & Tools

ECONOMIC TRENDS

Unemployment rate - total (% labour force)

EU27

6.5 FEB. 2020

6.0 6.1 6.2 6.3 6.4 6.5 6.6 6.7 6.8 6.9 7.0

M A M J J A S O N D J F

EU27 EU28 EA19 i

2. Za ovu vježbu preuzet ćemo podatke iz kategorije *Održivi razvoj*.

The screenshot shows the Eurostat website interface. The browser address bar displays <https://ec.europa.eu/eurostat/data/browse-statistics-by-theme>. The page header includes the Eurostat logo, the tagline "Your key to European statistics", and navigation links for "News", "Data", "Publications", "About Eurostat", and "Help". A search bar is located in the top right corner.

The main content area is titled "EUROPEAN COMMISSION > Eurostat > Data > Browse statistics by theme". It features a sidebar on the left with links to "Database", "Web Services", "Access to microdata", "Metadata", and "SDMX InfoSpace". The main content area is divided into two sections: "EU POLICY INDICATORS" and "STATISTICS BY THEME".

In the "EU POLICY INDICATORS" section, there are six buttons: "Euro Indicators / PEELs", "Sustainable development", "European Pillar of Social Rights", "Circular economy", "Macroeconomic Imbalance Procedure (MIP)", and "Europe 2020". A red arrow points to the "Sustainable development" button.

The "STATISTICS BY THEME" section is divided into three columns:

- General and regional statistics**
 - > Regions and cities
 - > Land cover/use statistics (LUCAS)
 - > International cooperation
- Economy and finance**
 - > National accounts (including GDP)
 - > ESA Input-Output tables
 - > European sector accounts
 - > Pensions in National Accounts
 - > Government finance and EDP
 - > Exchange and interest rates
 - > Harmonised Indices of Consumer Prices (HICP)
 - > Housing price statistics
 - > Purchasing Power Parities (PPPs)
 - > Balance of payments
 - > Economic globalisation
- Population and social conditions**
 - > Population: demography, population projections, census, asylum & migration
 - > Health
 - > Education and training
 - > Labour market (including Labour Force Survey (LFS))
 - > Income, social inclusion and living conditions
 - > Social protection
 - > Household Budget Surveys
 - > Youth
 - > Culture
 - > Sport
 - > Crime and criminal justice
 - > Quality of life indicators
 - > Equality (age, gender and disability)

3. Potražite pristup tablicama.

Overview - Eurostat

https://ec.europa.eu/eurostat/web/sdi/overview

eurostat

Sign In | Register

Legal notice | RSS | Cookies | Links | Contact

English

Type a keyword, a publication title, a dataset title...

NewsDataPublicationsAbout EurostatHelp

European Commission > Eurostat > Sustainable development indicators > Overview

Sustainable Development Goals – Overview

INTRODUCTION

What are the sustainable development goals (SDGs)?

The 17 Sustainable Development Goals (SDGs) and their related 169 targets, which are at the heart of the UN's 2030 Agenda for Sustainable Development, provide a new policy framework worldwide towards ending all forms of poverty, fighting inequalities and tackling climate change, while ensuring that no one is left behind.

> read more

HIGHLIGHTS



European Semester and SDGs

The 2020 country reports are published. Find short term progress of the Member States towards the SDGs in Annex E.



Key findings



Indicators:
goal by goal



Tables



Publications



Statistics Explained



Policy context



Links



Visualise the SDGs

Have a look at the new features of our innovative digital publication 'SDGs & me' and explore and evaluate the situation of your country compared to others for a subset of the EU SDG indicators.

https://ec.europa.eu/eurostat/web/sdi/main-tables

4. U ovom slučaju, kliknite simbol tablice s indikatorom *udio mladih ljudi koji nisu zaposleni niti se trenutno obrazuju*. Kasnije možete ponoviti vježbu s ostalim podacima koji vas možda više zanimaju.

Main tables - Eurostat

https://ec.europa.eu/eurostat/web/sdi/main-tables

Search eurostat



eurostat

Your key to European statistics

Sign In | Register

Legal notice | RSS | Cookies | Links | Contact

English

Type a keyword, a publication title, a dataset title...

News

Data

Publications

About Eurostat

Help

European Commission > Eurostat > Sustainable development indicators > Main tables

SUSTAINABLE DEVELOPMENT

Overview

Key findings

Indicators

MAIN TABLES

Publications

Policy context

Links

ACCESS TO DATA: MAIN TABLES

ZIP Sustainable development indicators

ZIP Goal 1 - No poverty (sdg_01)

ZIP Goal 2 - Zero hunger (sdg_02)

ZIP Goal 3 - Good health and well-being (sdg_03)

ZIP Goal 4 - Quality education (sdg_04)

ZIP Early leavers from education and training by sex (sdg_04_10) M i

ZIP Tertiary educational attainment by sex (sdg_04_20) M i

ZIP Participation in early childhood education by sex (sdg_04_30) M i

ZIP Underachievement in reading, maths or science (source: OECD) (sdg_04_40) M i

ZIP Employment rates of recent graduates by sex (sdg_04_50) M i

ZIP Adult participation in learning by sex (sdg_04_60) M i

ZIP Young people neither in employment nor in education and training by sex (sdg_08_20) M i

ZIP Goal 5 - Gender equality (sdg_05)

ZIP Goal 6 - Clean water and sanitation (sdg_06)

ZIP Goal 7 - Affordable and clean energy (sdg_07)

ZIP Goal 8 - Decent work and economic growth (sdg_08)

ZIP Goal 9 - Industry, innovation and infrastructure (sdg_09)

ZIP Goal 10 - Reduced inequalities (sdg_10)

ZIP Goal 11 - Sustainable cities and communities (sdg_11)

ZIP Goal 12 - Responsible consumption and production (sdg_12)

ZIP Goal 13 - Climate action (sdg_13)

ZIP Goal 14 - Life below water (sdg_14)

ZIP Goal 15 - Life on land (sdg_15)

ZIP Goal 16 - Peace, justice and strong institutions (sdg_16)

5. Kako biste pojednostavili tablicu za ovu vježbu, smanjite joj opseg vrijednosti na npr. samo jednu godinu koja vas zanima i samo za vrijednosti pojedinačnih zemalja.

Selection

Format

Download

Help on this tab

Column

Row

Page

Time [1/19]

Geopolitical entity (reporting) [35/38]

Sex [1/3]

2018

35 values selected

Total

Drag and drop here for breakdown

Drag and drop here for breakdown

Time frequency: Annual

Age class: From 15 to 24

Training: Neither formal nor non-formal educ...

Activity and employment status: Not employed persons

Unit of measure: Percentage

Young people neither in employment nor in education and training by sex (online data code:SDG_08_20)

Source of data: Eurostat

Help

Current view Default presentation

Table

Line

Bar

Map

TIME	2018
GEO	
Belgium	12.0
Bulgaria	18.1
Czechia	9.5
Denmark	8.5
Germany (until 1990 former territory of the FRG)	7.9
Estonia	11.7
Ireland	11.6
Greece	19.5
Spain	15.3
France	13.6
Croatia	15.6
Italy	23.4
Cyprus	14.9
Latvia	11.6
Lithuania	9.3
Luxembourg	7.5
Hungary	12.9

6. Zatim pokušajte maksimalno prilagoditi podatke hrvatskim standardima (npr. decimalni zarez) i osobnim željama (poravnanje podatka na desnu stranu ćelije), ali i za spajanje sa .shp datotekom (jednostavni kodovi umjesto naziva država na engleskom jeziku).

Statistics | Eurostat

https://ec.europa.eu/eurostat/databrowser/view/sdg_08_20/default/table?lang=en

Search: eurostat

Selection

Format

Download

General options

Labelling

Decimal symbol

Thousands symbol

Flags

labels

codes

codes and labels

dimension specific

dot (.)

comma (,)

comma (,)

dot (.)

blank space

none

show

hide

Table options

Empty Rows

Empty Columns

Data alignment

Data displayed

show

hide

show

hide

right

decimal separator

selected

freq: A

age: Y15-29

training: NO_FE_NO_NFE

wstatus: NEMP

unit: PC

geo: (Multiple positions)

TIME: 2018

sex: T

Young people neither in employment nor in education and training by sex

(online data code:SDG_08_20)

Source of data: Eurostat

Help

Current view

Default presentation

Table

Line

Bar

Map

↓↑	TIME	2018 ↓↑
GEO	↓	
BE		12,0
BG		18,1
CZ		9,5
DK		8,5
DE		7,9
EE		11,7
IE		11,6
EL		19,5
ES		15,3
FR		13,6
HR		15,6
IT		23,4

EC data browser (Latest commit 1605cbc, built on 2020-02-13T11:16:56.733Z)

7. Potražite dodatne opcije za preuzimanje (*download*) podataka.

The screenshot shows the Eurostat data browser interface. A red arrow points to the 'Download' button in the top right corner. Another red arrow points to the 'Options and other formats' link in the download menu. The menu lists options for downloading data on this page only (Spreadsheet (.xlsx), SDMX 2.1, TSV) and the full dataset (SDG_08_20) in the same formats. The 'Options and other formats' link is highlighted.

General options

Labelling: labels, codes, codes and labels, dimension specific ⚙️

Decimal symbol: dot (.), comma (,)

Thousands symbol: comma (,), dot (.), blank space, none

Flags: show, hide

Table options

Empty Rows: show, hide

Empty Columns: show, hide

Data alignment: right, decimal separator

Data displayed: selected

freq: A age: Y15-29 training: NO_FE_NO_NFE wstatus: NEMP unit: PC geo: (Multiple positions) TIME: 2018 sex: T

Young people neither in employment nor in education and training by sex (online data code:SDG_08_20)
Source of data: Eurostat

Help Current view Default presentation 📄 ↺ 🔗

Table Line Bar Map

↑↓	TIME	2018↓
GEO	↓	
BE		12,0
BG		18,1
CZ		9,5
DK		8,5
DE		7,9
EE		11,7
IE		11,6
EL		19,5
ES		15,3
FR		13,6
HR		15,6
IT		23,4

EC data browser (Latest commit 1605cbc, built on 2020-02-13T11:16:56.733Z)

8. Iako tablicu možete preuzeti u više tipova datoteka, vjerujem da će .xlsx većini biti najpoznatiji format. Također, bitno je navesti kako želite preuzeti samo podatke koje ste maloprije definirali, a ne cijelu izvornu tablicu. Dakle, što jednostavniju tablicu, sa samo probranim vrijednostima.

The screenshot shows the Eurostat data browser interface. A modal dialog titled "Formats and download options" is open, allowing users to customize their data download. The dialog has three tabs: "DATA", "DATA STRUCTURE", and "CODE LISTS". The "DATA" tab is active, showing options for file format, data scope, flags, labelling, summary sheet, and structure sheet. Red arrows highlight specific options: "Table" in the left sidebar, "Spreadsheet (.xlsx)" under "Select file format", "Data on this page only" under "Data scope", "Without flags" under "Flags", "Codes" under "Labelling", "Yes" under "Summary sheet", "No" under "Structure sheet", and the "Download" button at the bottom right.

Formats and download options

Select file format:

[Spreadsheet \(.xlsx\)](#) [Text \(.tsv, .csv\)](#) [SDMX \(.xml, .csv\)](#) [JSON-stat \(.json\)](#) [Help](#)

Data scope

[Data on this page only](#) [Data on this page \(Page by\)](#) [Full dataset](#) [Help](#)

Flags

[Without flags](#) [With flags - separate columns](#) [With flags - cell comments](#) [With flags - separate sheets](#)

Labelling

[Labels](#) [Codes](#) [Codes and labels](#)

Summary sheet

[Yes](#) [No](#)

Structure sheet

[Yes](#) [No](#)

[Cancel](#) [Download](#)

9. Sljedeći korak je preuzimanje geoprostornih podataka s Eurostat stranica.

The screenshot shows the Eurostat website interface. The browser address bar displays <https://ec.europa.eu/eurostat/web/main/home>. The website header includes the Eurostat logo, the tagline "Your key to European statistics", and navigation links for "Sign In", "Register", "Legal notice", "RSS", "Cookies", "Links", and "Contact". A search bar is present with the placeholder text "Type a keyword, a publication title, a dataset title...".

The main navigation bar contains tabs for "News", "Data", "Publications", "About Eurostat", and "Help". The "Data" tab is selected, and a dropdown menu is open, listing various data access options. A red arrow points to the "GISCO: Geographical Information and maps" option, which is highlighted in blue. Other options in the menu include "Database", "Browse statistics by theme", "Statistics A - Z", "Experimental statistics", "Bulk download", "Web Services", "Access to microdata", "Metadata", "SDMX InfoSpace", and "Data validation".

The left sidebar features an "ANNOUNCEMENT" section with a "COVID-19" banner and a "NEWS RELEASES" section with a headline about average hourly labour costs in 2019. The right sidebar includes a "DATA" section with links to "Most popular tables", "Complete database", and "Visualisations & Tools", and an "ECONOMIC TRENDS" section featuring a line chart for "Unemployment rate - total (% labour force)" for EU27, showing a value of 6.5 in February 2020.

At the bottom, there is a "WHAT'S NEW?" section with two featured articles: "Number of healthy years of life: countries compared" and "How many EU citizens die from influenza?".

10. Preuzmite .shp datoteku. Navedena mjerila utječu na konačni kartografski prikaz i veličinu datoteke.

The screenshot shows the Eurostat website interface. The browser address bar displays the URL: <https://ec.europa.eu/eurostat/web/gisco/geodata/reference-data/administrative-units-statistical-units/countries>. The page title is "eurostat Your key to European statistics". The navigation menu includes "News", "Data", "Publications", "About Eurostat", and "Help". The breadcrumb trail is: "European Commission > Eurostat > GISCO > Geodata > Reference data > Administrative Units / Statistical Units > Countries".

The left sidebar contains a tree structure under "Geodata" > "Reference data" > "Administrative Units / Statistical Units". The "COUNTRIES" item is highlighted in red. Other items include "NUTS", "Urban Audit", "Census", "Communes", "LAU", "Population Distribution / Demography", "GEOSTAT", "Clusters", "DEGURBA", "Grids", "Transport Networks", "Land cover", "Elevation", and "GISCO activities".

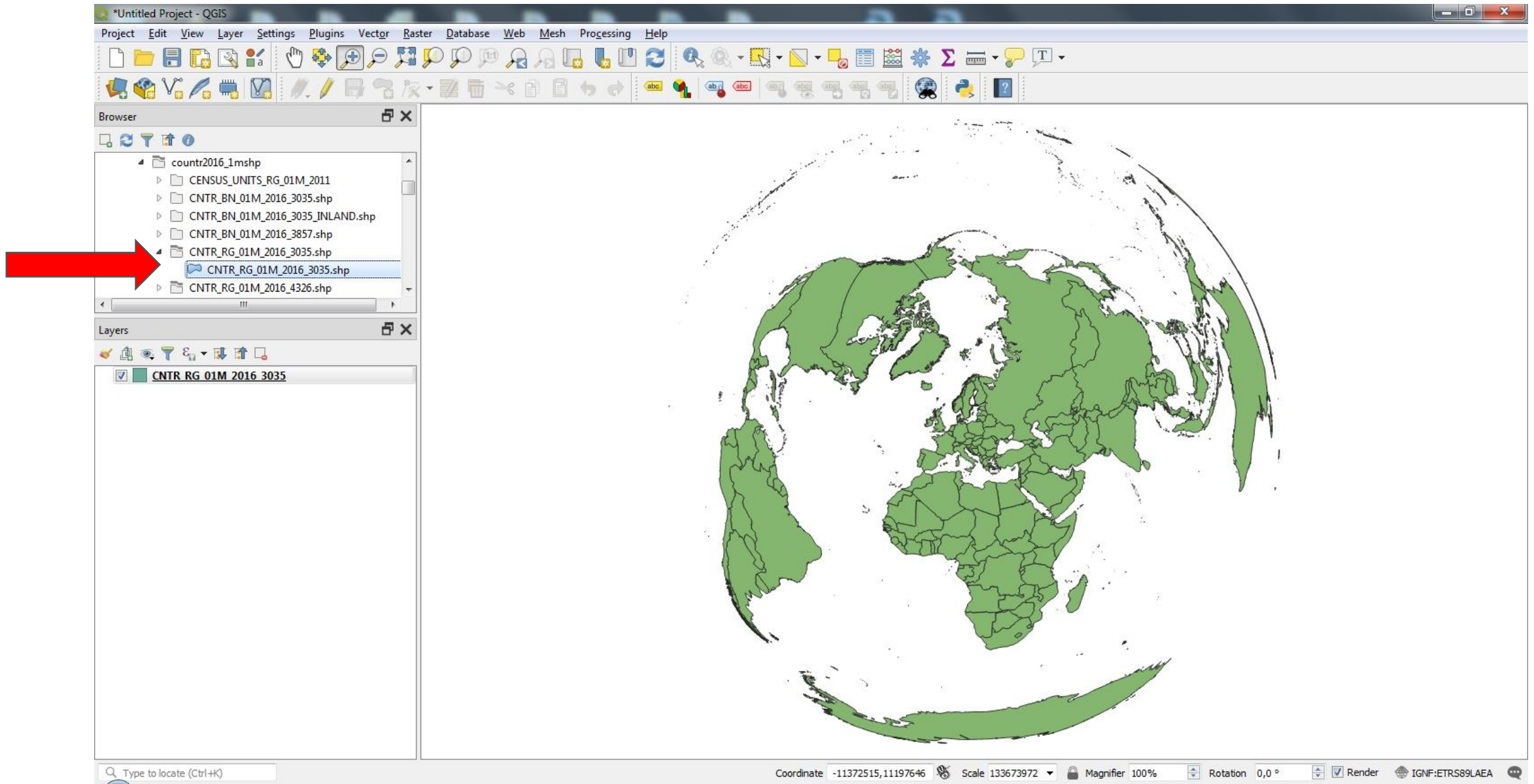
The main content area is titled "COUNTRIES" and includes a warning: "Please be aware that there are specific [download provisions](#) for the datasets shown below which must be respected. The download and usage of these data is subject to their acceptance." It also mentions: "Access to the datasets is additionally provided via the [GISCO data distribution REST API](#) which includes data in different projections."

The table below lists the available datasets for download:

Administrative or Statistical unit	Version date	Scale	File format to download					API
			SHP	TopoJSON	geoJSON	GDB	SVG	
Countries 2016	01/12/2018	1:1 Million	ZIP	ZIP	ZIP	ZIP	ZIP	API
		1:3 Million	ZIP		ZIP	ZIP	ZIP	API
		1:10 Million	ZIP	ZIP		ZIP	ZIP	API
		1:20 Million	ZIP	ZIP	ZIP	ZIP	ZIP	API
		1:60 Million	ZIP	ZIP	ZIP	ZIP	ZIP	API
		1:1 Million	ZIP	ZIP	ZIP	ZIP	ZIP	API
		1:3 Million	ZIP	ZIP	ZIP	ZIP	ZIP	API
		1:10 Million	ZIP	ZIP	ZIP	ZIP	ZIP	API

A red arrow points to the "SHP" download link for the "Countries 2016" dataset at the 1:1 Million scale.

11. Nakon što preuzmete i raspakirate zipane mape, za ovu vježbu preporučujem vam da upotrijebite poligonski vektorski sloj s državama svijeta u projekciji prikladnoj za prikaz EU, a prepoznat ćete ju po EPSG kodu 3035. Riječ je o ETRS89 / LAEA (engl. *Lambert azimuthal equal-area*).



12. U Excelu ili sličnoj aplikaciji, maksimalno pojednostavite .xlsx tabilcu preuzetu s Eurostata kako bi izbledala poput ove na slici ispod.

SDG_08_201586077063083 - Excel

DATOTEKA POLAZNO UMETANJE IZGLED STRANICE FORMULE PODACI PREGLED PRIKAZ

Lijepljenje Izreži Kopiraj Prenositelj oblikovanja

Meduspremnik Font Poravnanje Broj Stilovi Čelije Uređivanje

Općenito Uvjetno oblikovanje Oblikuj kao tablicu Stilovi Umetni Izbriši Oblikuj Automatski zbroj Ispuni Očisti Sortiraj i filtriraj Pronađi i odaberi

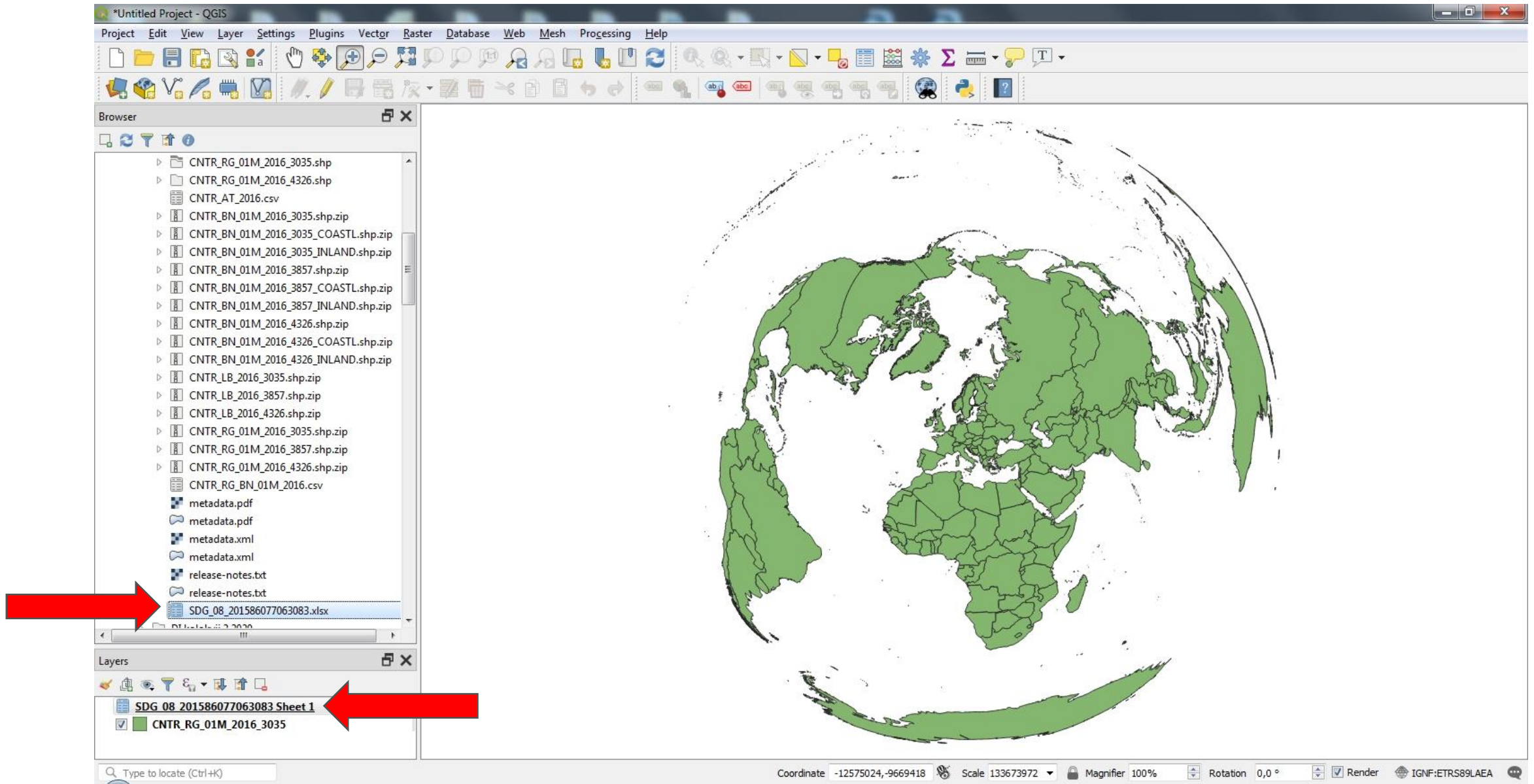
A1 GEO

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V
1	GEO	2018																				
2	BE	12																				
3	BG	18,1																				
4	CZ	9,5																				
5	DK	8,5																				
6	DE	7,9																				
7	EE	11,7																				
8	IE	11,6																				
9	EL	19,5																				
10	ES	15,3																				
11	FR	13,6																				
12	HR	15,6																				
13	IT	23,4																				
14	CY	14,9																				
15	LV	11,6																				
16	LT	9,3																				
17	LU	7,5																				
18	HU	12,9																				
19	MT	7,3																				
20	NL	5,7																				
21	AT	8,4																				
22	PL	12,1																				
23	PT	9,6																				
24	RO	17																				
25	SI	8,8																				
26	SK	14,6																				
27	FI	10,1																				
28	SE	6,9																				
29	UK	11,7																				
30	IS	5,4																				
31	NO	6,5																				
32	CH	6,6																				
33	ME	21																				
34	MK	29,8																				
35	RS	20,1																				
36	TR	27,6																				

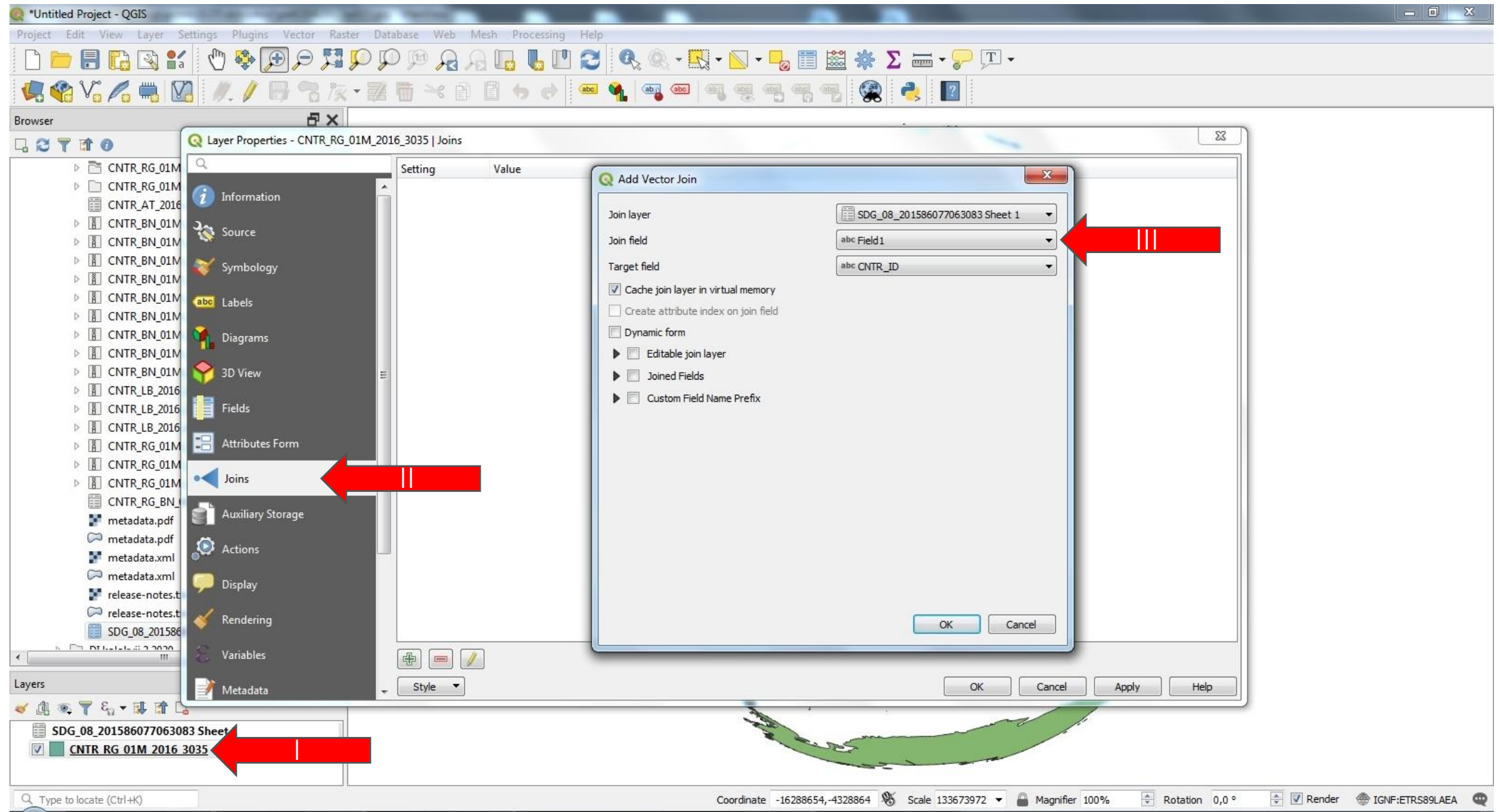
Sheet 1

SPREMAN 110%

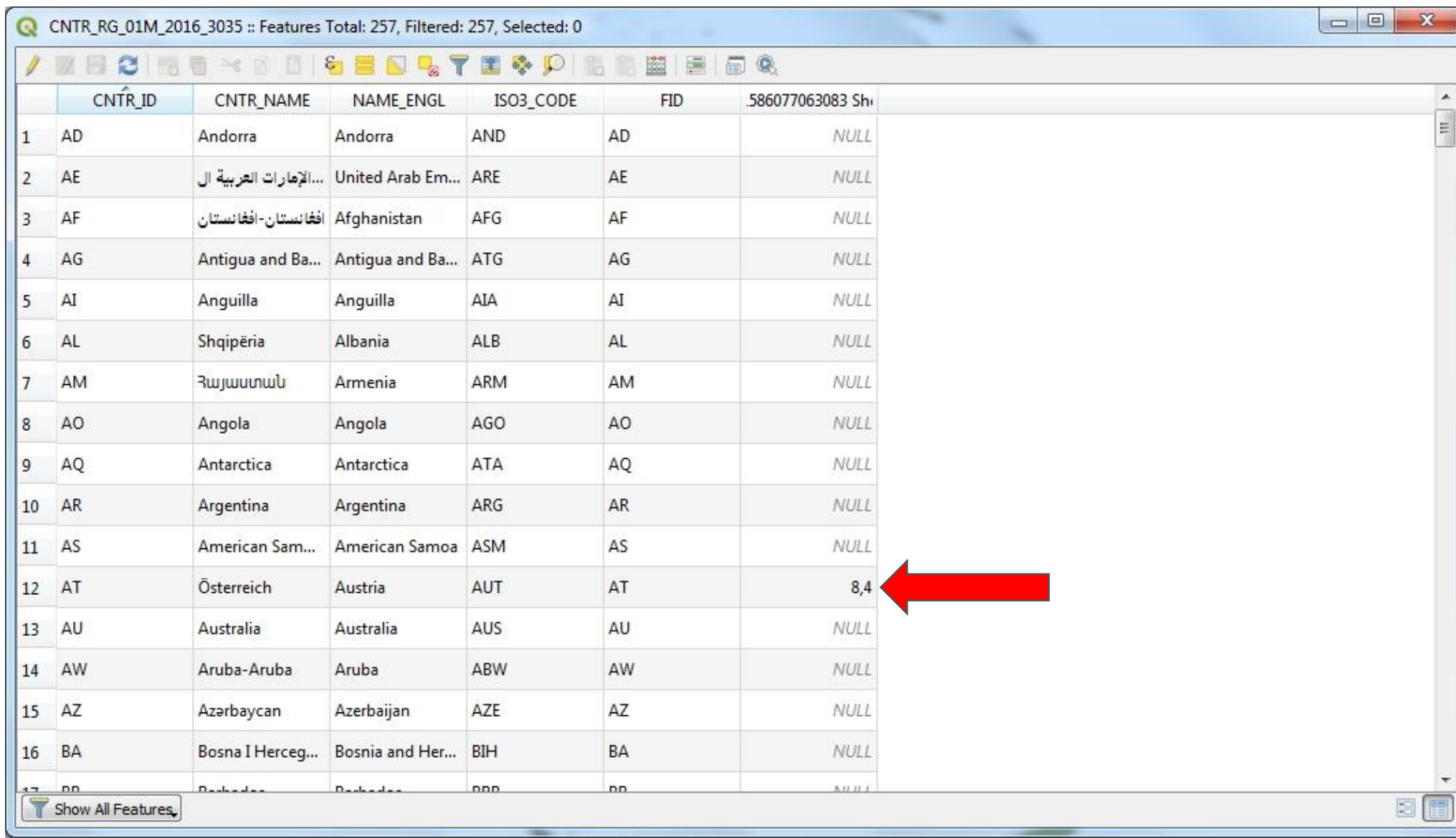
13. Potražite tu tablicu u QGIS-u i dodajte je u svoje slojeve podataka.



14. Spajanje tablica izvršite pomoću *Join* operacije koja se nalazi u svojstvima ciljanog sloja. Prije toga savjetujem da proučite koja su to polja u obje tablice pomoću kojih se one mogu spojiti (*Join/Target field*). U ovom slučaju, to su "Field1" i "CNTR_ID" u kojima se nalaze kodovi imena država (npr. HR za Hrvatsku).



15. Nakon naredbe *Join*, otvorite atributivnu tablicu shapefile datoteke s državama kako biste provjerili je li operacija spajanja uspjela. Na slici dolje, vidimo da velikoj većini zemalja svijeta vrijednosti nisu pridružene jer ih nismo niti imali u preuzetoj tablici, ali neke su europske države popraćene sa željenim podacima.

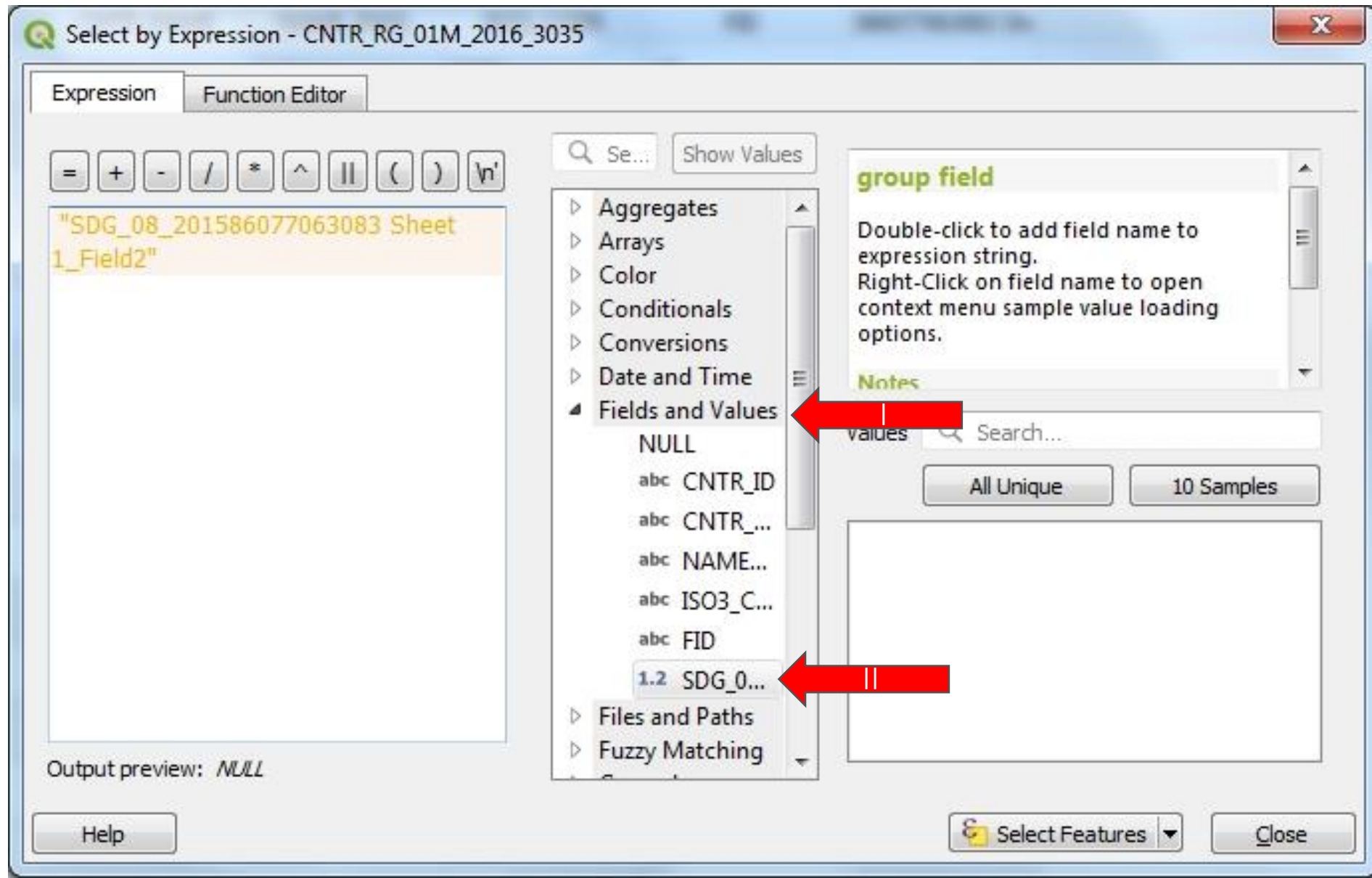


QGIS window title: CNTR_RG_01M_2016_3035 :: Features Total: 257, Filtered: 257, Selected: 0

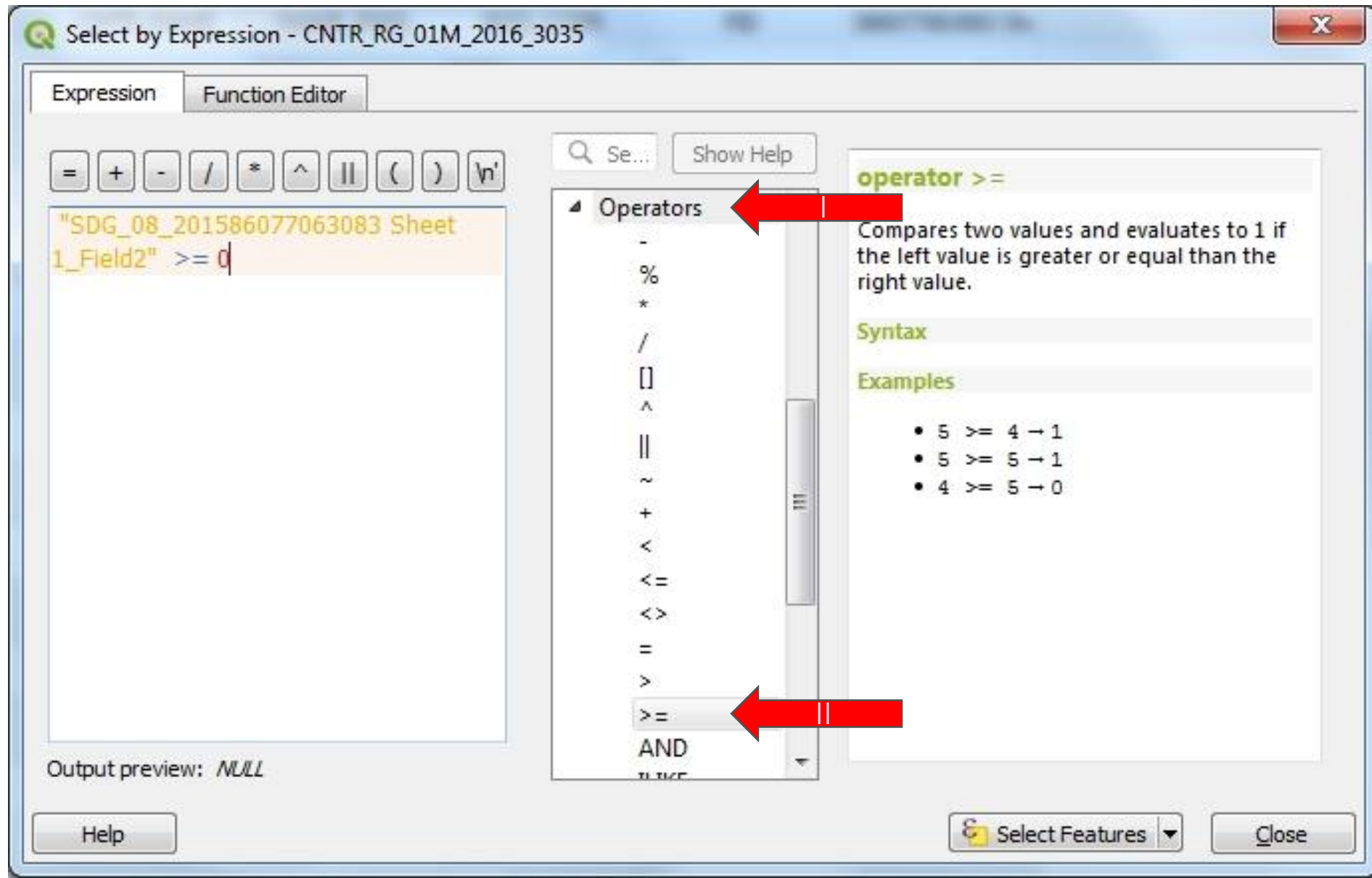
	CNTR_ID	CNTR_NAME	NAME_ENGL	ISO3_CODE	FID	.586077063083 Sh
1	AD	Andorra	Andorra	AND	AD	NULL
2	AE	الإمارات العربية ال...	United Arab Em...	ARE	AE	NULL
3	AF	افغانستان-افغانستان	Afghanistan	AFG	AF	NULL
4	AG	Antigua and Ba...	Antigua and Ba...	ATG	AG	NULL
5	AI	Anguilla	Anguilla	AIA	AI	NULL
6	AL	Shqipëria	Albania	ALB	AL	NULL
7	AM	Հայաստան	Armenia	ARM	AM	NULL
8	AO	Angola	Angola	AGO	AO	NULL
9	AQ	Antarctica	Antarctica	ATA	AQ	NULL
10	AR	Argentina	Argentina	ARG	AR	NULL
11	AS	American Sam...	American Samoa	ASM	AS	NULL
12	AT	Österreich	Austria	AUT	AT	8,4
13	AU	Australia	Australia	AUS	AU	NULL
14	AW	Aruba-Aruba	Aruba	ABW	AW	NULL
15	AZ	Azərbaycan	Azerbaijan	AZE	AZ	NULL
16	BA	Bosna I Herceg...	Bosnia and Her...	BIH	BA	NULL
17	BB	Barbados	Barbados	BBR	BB	NULL

Show All Features

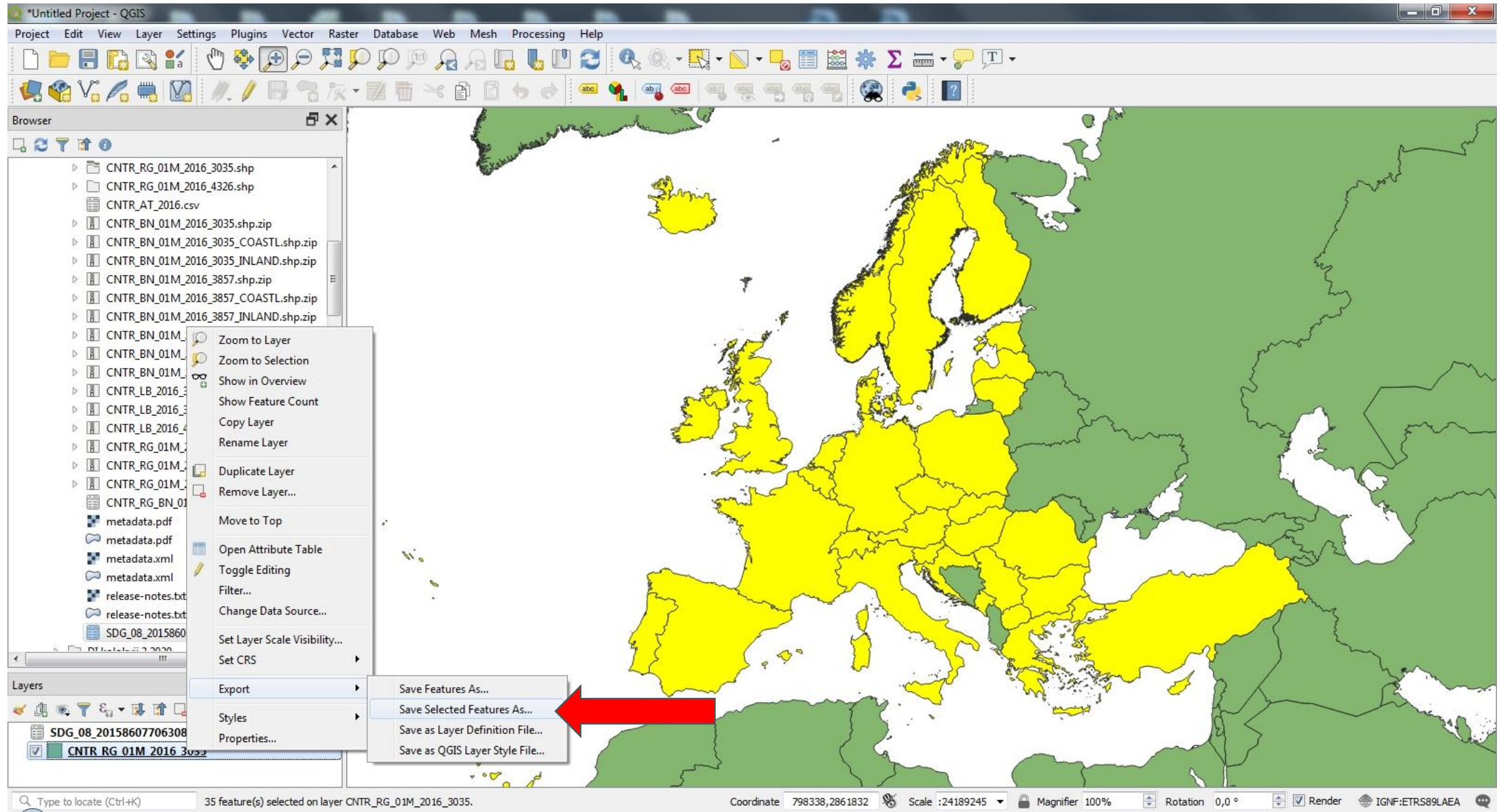
16. Napravite odabir država s tim podacima tako što ćete sastaviti izraz koji se sastoji od željenog polja...



17. ... i operatora $\geq$ te vrijednosti 0. Na taj način, odabiremo sve zapise (retke) iz tablice koji preuzeti Eurostatov indikator imaju veći ili jednak nuli.



18. Na karti vidimo žutom bojom obojane države odabrane prema sastavljenom izrazu. Sljedeći korak je njihov izvoz u novu .shp datoteku.



19. Provjerite sve stavke u otvorenom dijaloškom okviru kako bi spremili željene podatke na ciljano mjesto u ispravnom formatu, sa željenom projekcijom itd. Nakon izvoza podataka, klasificirajte podatke, odaberite prikladne boje i dovršite kartu prema uputama iz prethodnih vježbi.

