INDICATOR 12: Land Cover as a 'Tool for Monitoring' Population Change

File Name: Access_and_Pop_Chg_1975-2015.shp

- Coordinate Reference Systems: WGS 84 / UTM zone 34N (EPSG:32634)

Attribute	Alias	Pseudonim
MatBrO	Municipality identification number	Matični broj opštine
MatBrNas	Settlement identification number	Matični broj naselja
ImeNasCir	Name of the settlement in Cyrillic	Ime naselja (ćirilica)
ImeNasLat	Name of the settlement in Latin	Ime naselja (latinica)
ImeOpsCir	Name of the municipality in Cyrillic	Ime opštine (ćirilica)
ImeOpsLat	Name of the municipality in Latin	Ime opštine (latinica)
ChgCLC_211	Change of non-irrigated arable land 1990–2018 (ha)	Promene nenavodnjavanog obradivog zemljišta 1990–2018 (ha)
ChgCLC_221	Change of vineyards 1990–2018 (ha)	Promene površina pod vinogradima 1990–2018 (ha)
ChgCLC_222	Change of orchards 1990–2018 (ha)	Promene površina pod voćnjacima 1990–2018 (ha)
ChgCLC_231	Change of pastures 1990–2018 (ha)	Promene u površinama pod pašnjacima 1990–2018 (ha)
ChgCLC_242	Change of complex cultivation patterns 1990–2018 (ha)	Promene povšina složenih obrazaca obrade 1990–2018 (ha)
ChgCLC_243	Change of land principally occupied by agriculture with significant areas of natural vegetation 1990–2018 (ha)	Promene pretežno poljoprivrednog zemljišta sa značajnim površinama prirodne vegetacije 1990–2018 (ha)
ChgCLC_31	Change of forest 1990–2018 (ha)	Promene šumskog zemljišta 1990–2018 (ha)
ChgCLC_321	Change of natural grassland 1990–2018 (ha)	Promene površina pod prirodim travljacima 1990–2018 (ha)
ChgCLC_324	Change of transitional woodlands scrub 1990–2018 (ha)	Promene površina pod šumovito-žbunastom vegetacijom 1990–2018 (ha)
ChgCLC_411	Change of inland marshes 1990–2018 (ha)	Promene močvarnih površina 1990–2018 (ha)
Decl/Grow	Population trend 1975–2015	Trend promene broja stanovnika 1975–2015

Description of Indicator: Following the transformations in the land cover, it is possible to determine which areas are exposed to the process of depopulation. For this purpose, the change in seven categories of land cover in the period 1990–2018 was considered, which is interrelated with the population changes (1990–2015) for the settlements using Land Cover as a 'Tool for Monitoring' Population Change indicator. Abandonment of agriculture assists in the delimitation of economic and demographic shrinkage territories which required land reutilization and conversion. The data that reflects on this process refers to the percentage of agricultural land gradually shifted towards the transitional categories to forest land, which indicates low population activity or its complete absence. The selected land cover types for calculation include: non-irrigated arable land (CLC 2.1.1.), vineyards (CLC 2.2.1.), orchards (CLC 2.2.2.), pastures (CLC 2.3.1.), complex cultivation patterns (CLC 2.4.2.), land principally occupied by agriculture with significant areas of natural vegetation (CLC 2.4.3.), forest (CLC 3.1.), natural grassland (CLC 3.2.1.), transitional woodlands scrub (CLC 3.2.4.), and inland marshes (CLC 4.1.1.). The differences in spatial coverage of these types between 2018 and 1990 were calculated and expressed in hectares. Population growth/decline in the period 1990–2015 was determined for settlements.

Source data for Indicator calculation

Type of data	Source
Land Cover data*	Corine Land Cover (CLC) 1990, Version 2020_20u1 [European Environmental Agency, Copernicus Land Monitoring Service, 2020]; Corine Land Cover (CLC) 2018, Version 2020_20u1 [European Environmental Agency, Copernicus Land Monitoring Service, 2020]
Population count**	GHS-POP R2019A dataset—GHS population grid multitemporal [European Commission, Joint Research Center, 2019], datasets for 1990 and 2015
Administrative units***	GeoSrbija [Open data of the National Data Infrastructure, Republic Geodetic Authority, n.d.]

* Land Cover data for the province Kosovo and Metohija are missing in the dataset for the year 1990 (CLC 1990). Accordingly, these administrative units were not included in the analysis.

** Population data for municipalites Preševo and Bujanovac are not included in datasets. Accordingly, the indicator values within these aministrative units are missing.

*** GeoSrbija (Open Data of the National Data Infrastructure, Republic Geodetic Authority, n.d.) from which the administrative settlements boundaries were taken have no data for the province Kosovo and Metohija. Accordingly, these administrative units were not included in the analysis.