

Needs and possibilities of using geospatial information on land cover, land use and land use change in spatial planning in Poland and Norway

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- What are the needs of spatial planning in Poland and Norway for geospatial information about land cover, land use, and land cover and land use change?
- Can CLMS products improve or supplement national data in spatial planning?



1. Literature review

- Legislation
- Planning documents

2. Systematic description of similarities, differences, and challenges

- Planning systems
- Geospatial databases

Poland

- Spatial Planning and Land Development Act (2015-revision)
- Requirements
 - Calculations: Balance extent of urban development and nature
 - «Hard data»: Monitor changes in urban space
 - Development policy monitoring system (Central Statistical Office)
 - Urban Policy Observatory

Norway

- Planning and Building Act (2008-revision)
- No explicit requirements, but administrative routines imply monitoring
 - New buildings and roads (georeferenced)
 - Farmland reallocated to other land use (annually)
 - Building permits in coastal zone
 - Detailed land use map (Statistics Norway, custom reporting every 5 years)
 - Long-term monitoring of the agricultural landscape (NIBIO, since 1998)
 - Irregular thematic monitoring upon commission: E.g., constructions in coastal zone, leisure homes, illegal buildings/constructions, green urban areas
 - Land use calculator

Spatial planning in Poland

Administrative level		Plan documents	Strategy documents
NATIONAL: STATE GOVERNMENT ADMINISTRATION		- [Until Nov 2020: National Spatial Development Concept (NSDC) 2030]	National Strategy of Regional Development 2010-20
SELF-GOVERNMENT ADMINISTRATION	REGIONAL: VOIVODSHIP	Voivodship spatial development plans	Voivodship development strategies landscape audit
	SUPRA-LOCAL: COUNTY	-	The supra-local (county) development strategies
	LOCAL: MUNICIPALITY	Studies of conditions and directions of spatial development (SUiKZP) Local spatial development plans (MPZP)	Local development strategies

Administrative level	Plan documents	Strategy documents
NATIONAL: State	<ul style="list-style-type: none"> Central government land-use plan (usually commissioned by central government, but developed by municipalities) 	<ul style="list-style-type: none"> Central government planning guidelines Central government planning provisions
REGIONAL: County (Norw.: 'fylke')	<ul style="list-style-type: none"> Regional master plan (Mainly strategic, limited to a fixed period of time; not obligatory) 	<ul style="list-style-type: none"> Regional planning strategy (Only <u>obligatory</u> regional planning document) Regional planning provisions (not obligatory)
LOCAL: Municipality (Norw.: 'kommune')	<ul style="list-style-type: none"> Municipal master plan Social element (Kommuneplan, samfunnsdel) Land-use element (Kommuneplan, arealdel) Area zoning plan (Områderegulering) Detailed zoning plan (Detaljregulering) 	<ul style="list-style-type: none"> Municipal planning strategy (<u>Obligatory</u> to be renewed every electoral term (4 yrs))

Poland: Planning documents on local level

	Local study of conditions and directions of spatial development (SUiKZP)	Local spatial development plan (MPZP)
Objective	Determine directions of spatial development and choice of spatial planning policy	Implement municipal spatial planning policy which sets land-use, and rules and conditions for buildings and land cover
Legal status	Not binding	Binding (Act of local law)
Scale	1:5000 to 1:25 000	1:500, 1:1000 or 1:2000
Level of detail	A morphological region / zone	Plot / terrain / land use
Land-use division	Not specified in detail	Specified in detail

NB: If no MZPZ, individual building permits may still be issued, smaller single-family housings even built without permit.

Norway: Planning documents on local level

	Municipal master plan (Norw.: 'kommuneplan')		Zoning plan (Norw.: 'reguleringsplan')	
	Social element	Land use element	Area zoning plan	Detailed zoning plan
Objectives	<ul style="list-style-type: none"> • Long-term strategy for the societal development of the municipality: • Challenges and goals • Assessment of alternative strategies • Basis for sector plans 	<ul style="list-style-type: none"> • Connection between future social development and land use • Main aspects of the allocation of land for new projects and land use, important factors to be considered, • Main objectives and areas requiring special consideration in terms of use and conservation of land 	<ul style="list-style-type: none"> • Clarify land use in greater detail 	<ul style="list-style-type: none"> • Follow up the land-use element of the municipal master plan and any requirements established in an adopted area zoning plan
Legal status	Binding: basis for municipality's own activities and for activities of the central government and regional authorities in the municipality	Binding for new projects or expansion of existing projects		
Scale	- (Text document only)	1:20,000–1:50,000 (1:5,000-1:10,000)	1:5,000 or 1:10,000 (1:20,000 or 1:50,000)	1:1000-1:2000 (1:500–1:5000)
Level of detail	Sectors: Infrastructure, housing, business, municipal services (health, schools, kindergartens, culture), environment, etc.	Entire municipality	Sub-section(s) of municipality	Construction project areas
Land-use division	-	Categories specified		

- National Integration of Local Spatial Development Plans (KIMPZP)
- National Geodetic and Cartographic Resource (PZGiK)
(NB: access fee)
 - General database of geographical objects (BDOO)
 - Orthophotomaps and numerical terrain model (ORTO/NMT)
- Basic LULC databases
 - Geoportal
 - National Topographic Database (BDOT10k): 3 levels
 - Land and Property Register (EGIB): Land, buildings, premises
NB: not updated regularly

- Up-to-date public set of basic map data available for public and private purposes
- Geodata organised readily available
- Municipalities must have planning register
- Authoritative collection of maps for spatial planning (DOK)
 - 147 datasets (topographic maps, property and building registers, infrastructure, other thematic layers)
 - Each municipality composes its DOK, dependent on needs; additional data may be added as long as it complies with quality standard
- LULC databases
 - National geospatial data infrastructure (Mapping authority)
- National map portal

- Many similarities
 - Administrative hierarchies
 - Allocation of tasks and responsibilities to administrative levels
- Most notable difference
 - Availability of geospatial data

CLMS accuracy vs. national documents: Time and scale

CLMS products			Poland	Norway
Corine Land Cover (Level-3)	Urban Atlas	HRL Imperviousness	MPZP – Local spatial development plan	Municipal Master Plan, Land-use Element
<ul style="list-style-type: none"> – Updated every 6 years (2006) – Minimum unit: 25 ha for changes: 5 ha – Scale 1:100 000 	<ul style="list-style-type: none"> – Updated 2006, 2012, 2018 – Minimum unit: 0.26-1 ha, dependent on class 	<ul style="list-style-type: none"> – Updated 2006, 2009, 2012, 2018 – Minimum unit 2006-2012: 20*20 m² – 2018: 10*10 m² 	<ul style="list-style-type: none"> – Scale: 1:1000 (1:500, 1:2000) 	<ul style="list-style-type: none"> – Update every 4 years or less frequent – Scale: usually 1:5,000 or 1:10,000 for central areas, less detailed for rural areas.

- International authorities need internationally standardized data, national planning authorities do not
- National cadastral data and building registers provide more detailed and accurate info than CLMS data
- Potential of CLMS data
 - ‘Landscape trend indicator’: Evidence for materialization of plans to be surveyed in detail
 - Temporary updates of national registers: Bridge time lags between actual developments and until official national databases are updated with more detailed data

Conclusions: Needs, facts and potential

- **Needs** for data in spatial planning **are defined by national legislation**, not by international institutions as primary stakeholders of CLMS data (EEA etc.)
- Thematic and geometric **accuracy of national datasets is usually better** than of CLMS data
- **CLMS data may fill gaps** when specific topics are (temporarily) missing in national datasets

Thank you!

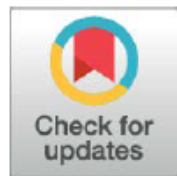
Interested in further details?

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**SPATIAL PLANNING NEEDS TOWARDS COPERNICUS
LAND MONITORING SERVICES: CASE STUDIES
FROM POLAND AND NORWAY**