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Land-use planning and public participation in Norway and Poland : comparative study

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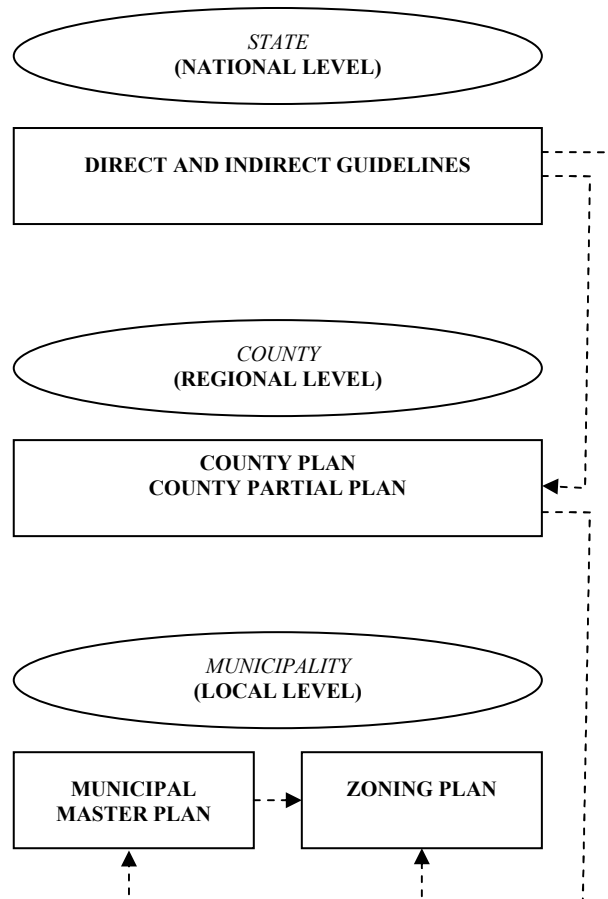


Fig. 1. Planning system in Norway

Source: self prepared sources

The basic regulatory instrument of spatial planning in Poland is “Spatial Planning and Land Management Act of 27th March 2003”. It specifies the rules of spatial policy on different administrative levels, the range and scope of land-use management. Even though in Poland there are 4 administrative levels, Polish planning system is based on 3 levels: national, regional and local (see Fig. 2), which is stated in Spatial Planning and Land Management Act. This Act also regulates the way of solving possible conflicts between citizens and local government authorities.

In Poland there are also other acts, which have influence on the planning process. The most important are: Environment Protection and Management Act (27th April 2001 with further amendments), the Building Code (7th July 1994 with further amendments), the Law on Real Property Management (21st August 1997 with further amendments).

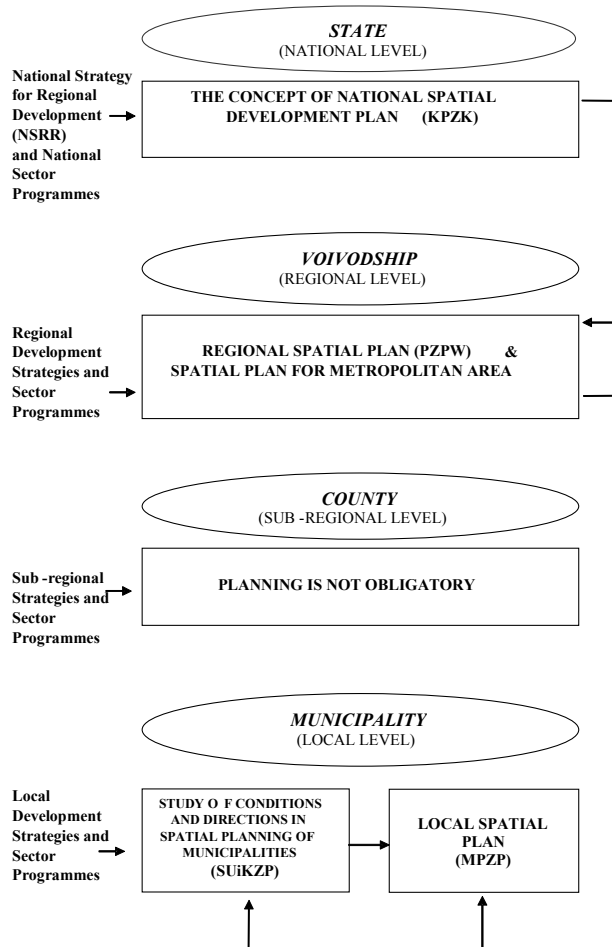


Fig. 2. Planning system in Poland

Source: Institute of Urban Development

National planning

Planning on the national level in Norway is in the hands of the Ministry of Environment. According to the Planning and Building Act there are several ways to implement national goals: direct general guidelines, indirect guidelines (White Papers) and direct interceptions of government in particular planning issues.

In Poland, the Ministry of Construction is a political body responsible for spatial planning on this level. There are two main planning documents: The Concept of National Spatial Development Plan and National Strategy for Regional Development.

Planning on the national level in both countries is similar in the sense of giving general guidelines for land management and development. They consist of text materials and analysis that do not have land-use maps. The main difference is that in Norway national planning policy presents several issues and guidelines in different documents made in case of a need. State guidelines do not show specific localization of infrastructure in geographical space. On the contrary, in Poland there is one document (The Concept of National Spatial Development Plan) considering all the main conditions and directions of national development. This document consists of general analyses, prognoses of long-term growth and ways of infrastructure development.

In Norway national guidelines should be taken into consideration during preparing lower level plans. However, varieties of guidelines give municipalities a chance to create a policy adapted to their particular local needs. However, general guidelines are used as a strong argument in planning; a plan can be stopped, if they are not taken into account. In other words, regional council can object to the local plans and use the policy guidelines as a basis of objection. It often happens that different local authorities use different national guidelines and it may lead to conflicts, too. County Governor is responsible for organizing negotiation meeting between two sides. If they cannot solve the conflict during this meeting, a draft of a plan is sent to the Ministry of Environment for judgment.

In Poland national guidelines have to be considered in preparing regional plans. It is stated in Spatial Planning and Land Management Act that a draft of this plan has to be sent to the Ministry of Construction to ascertain its' accordance with the Concept of National Spatial Development Plan. In general, regional plans take into account the main cities which serve national and regional functions, transport and infrastructural corridors, national airports and national water management system.

Regional planning

Planning on a regional level in Norway is relatively weak, as it gives only general directions of regional development. Every county has its own County Plan, which is adopted by a political body - county council. County plans should be revised every 4 years, which is connected with elections and political changes. They are not legally binding political documents, with a broad scope and land-use policy.

In Poland, voivodeship councils are responsible for planning on regional level. They prepare Strategies for Regional Development, Regional Spatial Plans and Spatial Plans for Metropolitan Areas. Regional Spatial Plans are prepared for all 16 voivodeships and revised at least once during every term of voivodeship council.

Planning on a regional level varies greatly between Norway and Poland. Norwegian County Master Plans are more similar to Polish sub-regional development strategies (see Fig. 2) than to Voivodeship Spatial Plans. Both of them are weak planning documents, because counties in Norway and in Poland have limited power in spatial planning.

Polish Strategies for Regional Development and Voivodeship Spatial Plans are much stronger instruments used in planning process than their Norwegian equivalents. Spatial Plans have maps of conditions and directions of different issues for example communication, technical infrastructure or environmental protection. However, regional planning does not include land-use, which remains in the competencies of local governments. Under the Regional Spatial Plans, land is indicated for the placement of public projects with extra-local significance. Plans as well indicate metropolitan and problematic or functional areas, for which authorities are obliged to prepare more detailed spatial plans.

Preparing of county plans in Norway should be coordinated with municipalities and regional state authorities responsible for different state sectors. It is difficult to put such coordination into practice, as usually counties do not take into consideration the opinions of municipalities. However, municipalities and state authorities can disagree with the draft

of a county plan and voice their objection against it.

As stated before, guidelines of county plans are not legally binding, but they can be used as a strong argument in planning on lower level. In practice municipalities use guidelines of county plans only when it is suitable for them. If a county plan is prepared well and responds to municipal demands, then municipalities use it during the preparation of local plans. However, according to Planning and Building Act, if municipalities do not take county plans into account, regional authorities can object to local plans and use county guidelines as a basis of objection. In this case the objection procedure is similar as at the national level.

Polish regional strategies for development and spatial plans are also not legally binding. Regional spatial documents are not binding for citizens and cannot constitute a legislation principle for administrative decisions. They are used by regional authorities for their interior issues and have impact on projects concerning Studies of Conditions and Directions in Spatial Planning prepared by municipalities. What is more, there is an obligation for the governor to agree local studies with regional planning documents. On the other hand, according to the procedure of making voivodeship spatial plans, municipalities can influence the preparation process by expressing their opinion about projects of those regional plans.

Local level

In Norway the most important part of planning is carried out on local level. It is due to the fact that municipalities have strong planning instruments. On this level, there are two main spatial documents: municipal master plan (*Kommuneplan*) and zoning plan (*Reguleringsplan*). Main responsibility for planning on the local level is in the hands of Municipal Councils through Standing Committees for Planning Matters. According to Planning and Building Act, municipal master plan must be prepared for each municipality.

In Polish planning system municipalities are basic units responsible for preparing local level documents. They prepare and approve such documents as Local Development Strategy (*Strategia Rozwoju Gminy*), Study of Conditions and Directions in Spatial Planning (*Studium Uwarunkowań i Kierunków Zagospodarowania Przestrzennego Gminy*) and Local Spatial Plan (*Plan Zagospodarowania Przestrzennego Gminy*).

In both countries municipalities are basic units in spatial planning system. Only their planning settlements are legally binding for land owners. Those authorizations have neither regional authorities nor government administration. However, in Norway, municipalities have a stronger impact on regional and country planning policy. In Poland, the contribution of municipalities in spatial management resolves mainly to local planning. As a result of centralized planning in the previous period, Polish municipalities still do not have enough instruments to influence the regional and national level. They can only give opinions about regional plans, but the final decision is made by regional authorities. Moreover, in local planning, municipalities have to consider all assignments of higher level planning, especially regional. In Norway situation is quite different, municipalities have to follow national guidelines, but some exceptions are possible. Due to the fact that planning is a political process and there are lots of national guidelines which are often unclear, municipalities can choose those most suitable for their spatial policy.

When analyzing local planning documents in Norway and Poland, one can find noticeable differences between them, as mentioned above. However, taking into account similarities in range and aims of planning documents, it may be stated that Norwegian Municipal Master Plan and Polish Study of Conditions and Directions in Spatial Planning are comparable. The same relation exists between Norwegian Zoning Plan and Polish Local Spatial Plan. It should be stated that the presented comparison should not be treated as binding and was made only for the purpose of this report.

The most general scope has the Polish Study of Conditions and Directions in Spatial Planning, which is not legally binding. Land-use part of study is divided between the development areas and other areas which are designated for specific purposes. According to law functions of development areas there are not specified in details. The scale of this document can vary from 1:5000 to 1:25 000.

Division of land-use part of Norwegian municipal master plan is quite similar to Polish study. However, this part of Norwegian plan is legally binding except for development areas, which may be stipulated to prepare zoning plans, and other provisions stated in Planning and Building Act. Those plans have no obligatory scale, the details of the plans depend on the type and particular needs of municipalities. Municipalities with smaller density have usually less detailed plans with zooming on centers of villages or towns.

On the other hand in Polish local spatial plans land-use is identified in detail. In development areas there are indications for different types of build-up areas, for example residential, public and private services and industrial areas. In those areas there should be specified detailed conditions of building with architectural parameters. Polish spatial plans are legally binding and have to be prepared in the scale of 1:500, 1:1000 or 1:2000.

As mentioned before, development areas included in Norwegian municipal master plans need zoning plans. They have similar conditions of land-use division as Polish local spatial plans. However, Norwegian zoning plans have more detailed architectural parameters of buildings, including even drawings of their shape. Scale of those plans is not legally defined, but they are usually prepared in 1:500, or 1:1000.

In Norway, as stated in the Act, there should be some coordination between municipalities, counties and regional state's sectors during the preparation of municipal master plans. Counties have a special duty to help municipalities to prepare their plans, in practice counties usually help mostly small municipalities.

In Norway, during preparation municipal plan's proposal, conflict of interests can occur. In such event, there is an objection procedure to solve it. Objections to the plan can be made by: county councils, county governor, state sectors and neighbor municipalities. In practice, counties as well as state sectors are very careful in using objections. In the event of an objection, there is a meeting between municipality and opponent of the plan, organized by county governor. If they do not reach an agreement, the project of a plan is send to Ministry of Environment for judgment. In the 90s', the Ministry judged the objections in favor of the Regional Level. It has changed recently, when the Ministry began to support municipalities more often. In 2000-2004 there were 163 cases (196 number of objection) to the Ministry of Environment; 43% of cases were judged in favor of the Regional Level,

20% in partial favor of Regional Level, and 37% in favor of municipality (Harvold, Hanssen, Strand, 2004).

In Poland, during the preparation of planning documents, cooperation between municipalities and higher administrative levels looks a little bit different. Project of the plan or study has to be agreed or opinioned by urban experts committee, neighborhood municipalities, state, regional authorities and organizations. Contrarily to Norway where opinions' procedure concentrates on negotiations, in Poland relative bodies indicate their instructions which have to be considered.

In Poland, there is strong emphasis that each local planning document should be prepared strictly through planning procedure, regulated by Spatial Planning and Land Management Act. After passing a plan or study it has to be checked in accordance with legislation and planning procedure by Voivodeship Governor. It is always checked very strictly and when any discordances are found, the governor can reject the whole or part of the plan or study. For example this may happen, if municipalities do not take the opinion of higher level authorities into consideration. When the plan is rejected, the whole procedure of preparing has to be repeated.

Case Studies

In this report planning system in Oslo and Kraków were taken into consideration as case studies. It is due to the fact that big urban areas constitute the best example of the complexity of spatial management. In those cities planners have to deal with a multitude of difficulties concerning economical, environmental and social aspects of spatial development. Those two cities also struggle with problems of revitalization in post-industrial areas.

Planning system in Oslo

Oslo has specific administration system, because it integrates the functions of a county and a municipality. Oslo city council is responsible for both municipal and county matters including planning.

In connection with a specific administration system in Oslo, a decision was taken to make a plan which might be suitable for municipal and county purposes. Oslo authorities made "The Comprehensive Development Plan Oslo towards 2020" approved by the City Council in 2004 (see Fig. 3). This is a county plan, but it is also used as a municipal plan (Komunneplan 2004). This plan applies for build-up zone, gives strategic guidelines for local development in Oslo and focuses mostly on housing, entrepreneurships, cultural heritage, landscape protection, transport, private and public services.

Except for the already presented plan for Oslo, there are some sectoral partial plans which are not legally binding, but give political guidelines, for example: plan for green areas within building zone and The Fjord City – Plans for Urban Development of the Waterfront. There are also some partial master plans which cover parts of Oslo area.

As it was stated above, before getting a building permission it is necessary to prepare a zoning plan. In Oslo, about 85% of them are prepared by private developers.

Every year there are about 300 private proposals of zoning plans and about half of them are approved.

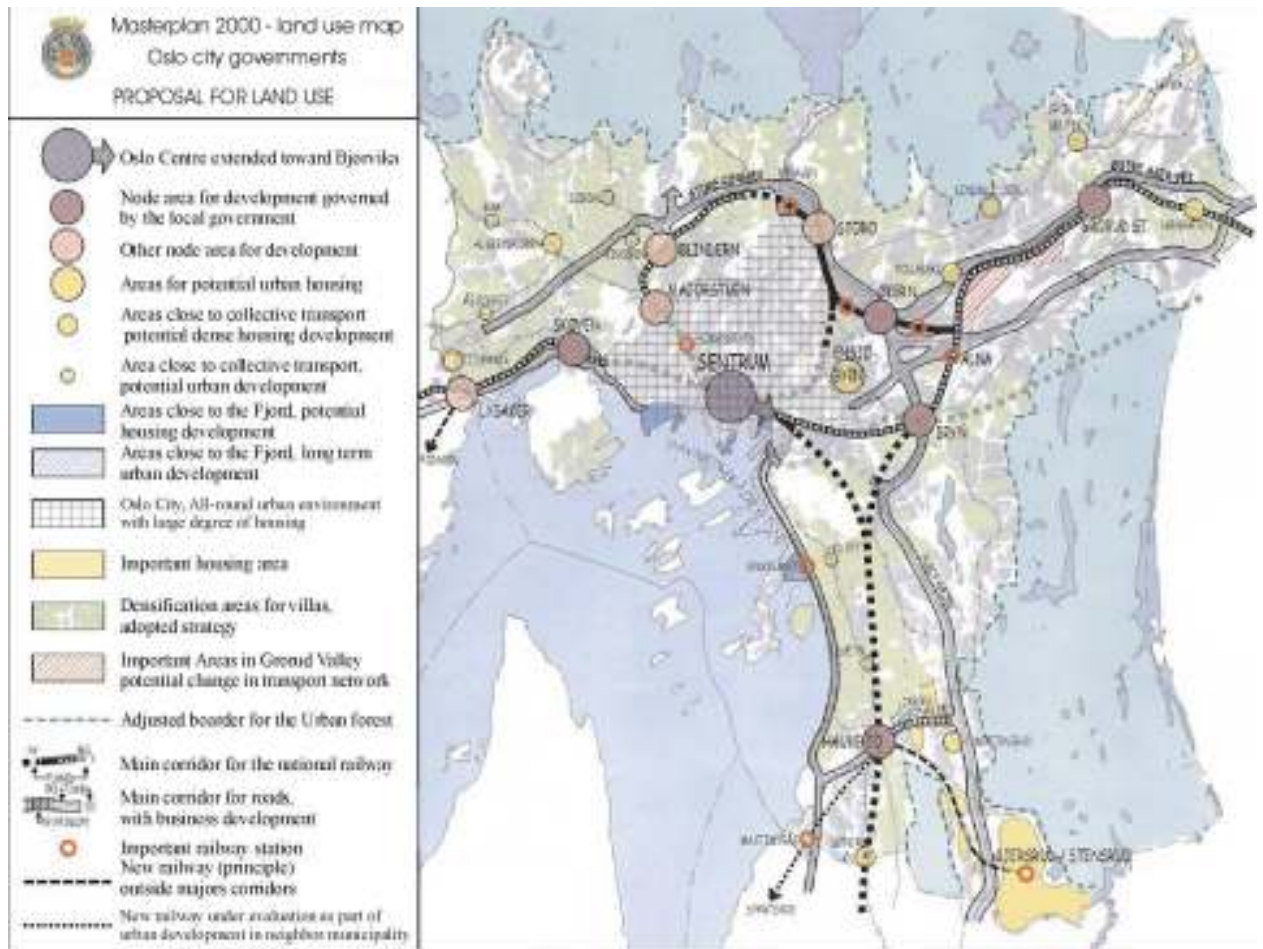


Fig. 3. The Comprehensive Development Plan Oslo towards 2020

Source: <http://www.plan-og-bygningsetaten.oslo.kommune.no/getfile.php/Plan-%20og%20bygningsetaten/Internett/Dokumenter/plan/planer/kommuneplan/kart-a3.jpg>, 2006

In attractive areas, for example Oslo fjord, drafting of zoning plans is directed at the development of the terrain. They are mostly public investments, made by private developers. One of the examples of cooperation between public authorities and private investors is the development of Bjørnviika, which takes place nowadays. It is based on the zoning plan of Bjørnviika – Bispeviika – Lohavn approved in 2003. The main purpose of the development of this area is to revitalize harbors zone with the improvement of communication system. As it was mentioned before, this area will have multifunctional (residential, cultural, business, services and entertainment) purposes.

Planning system in Kraków

Spatial planning in Kraków is in the hands of the City Council, realized through Spatial Planning Office. Development management in Kraków is based on three main areas of planning documents: Kraków's Development Strategy, Study of Conditions and Directions

in Spatial Planning of Kraków, and partial Local Spatial Plans.

Krakow's Study of Conditions and Directions in Spatial Planning was adopted in 2003. The Study indicates: residential buildings with high and low density, public and private services, industrial areas, green areas, open space areas (with agricultural purposes), technical infrastructure and communication corridors. Besides, there are also separated significant areas of economic, cultural, scientific development, public spaces and multifunctional centers (see Fig. 4).

Study is a base for preparing local spatial plans in Krakow. Before the new Spatial Planning and Land Management Act from 2003, there was only 1.5% of the city surface area covered by local plans. In fact, it was the reason for spatial chaos in the city. There was lack of coordination of investment activities that were slow and uncertain, and also protection of the public interest was almost impossible. During last year, situation was changing, there were prepared and approved many new plans.

One example of a lastly adopted plan is the Local Spatial Plan of Zabłocie district. This plan covers post-industrial brownfield area located in a central part of the city along the Vistula River. Before the Local Spatial Plan, a Revitalization Program for Zabłocie was prepared. The concept of the revitalization of Zabłocie operates in spatial, economic and social areas. There are planned: new residential buildings of various standards, entrepreneurship incubator, business premises (adopted from post-industrial buildings), university and the Museum of Modern Art (located in the old Schindler's factory). Emphasis is put on public space, by the development of the Vistula River Embankments and the establishment of a new representative avenue.

Environmental aspect in planning

In both countries, environmental issues are highly emphasized during planning process. The range of Environmental Impact Assessment in Poland and in Norway is similar. In Norway, an obligation for preparing EIA has been introduced recently, due to the European Union Directive of 27th June 2001 on the assessment of the effects of certain plans and programs on the environment (2001/42/EC). In Poland, obligation of preparing EIA was introduced much earlier. In 2002 EIA was only adjusted to EU directive mentioned above. Contrarily to Poland, in Norway EIA is not prepared for national guidelines. In Poland there is also another type of environmental document prepared obligatory in planning process – State of Environment.

Another difference is planning in protected areas. In Norway those areas are excluded from local planning. In Polish plans land-use is marked in protected areas, but it has to comply strictly with the program of protection. However, preparation of EIA for protected areas is obligatory in both countries.

Next important issue is planning in buffer zones of protected areas. In Norway they can be created around National Park. In planning process there might occur conflicts between municipalities and authorities of protected areas in those zones. In this case, the best solution to solve the conflicts is to prepare a partial county plan for buffer zones. This kind of plan can be used by county authorities as a strong argument to voice objection against the development of build-up areas (Falleth, Hovik, 2006).

Similarly to Norway, in Polish planning practice, it is very difficult to plan land-use in buffer zones around protected areas. It often causes a lot of conflicts between municipalities and authorities of protected areas, especially in buffer zones of National Parks. In buffer zones there is high tension between citizens, municipal and protected areas authorities. Municipality usually wants to extend the development areas to buffer zones what is protested against by the authorities of protected areas.

Public participation in local planning process

In Norway public participation in planning process has a long tradition and is regulated by Planning and Building Act. It is stated that municipal planning authorities shall inform the public about preparing municipal or zoning plans at an early stage of the planning. Active participation in the planning process should be available for affected citizens and institutions. Before the preparation of zoning plan, it is necessary to announce it in two newspapers.

The formal procedure of preparing a municipal master plan describes Fig. 5. During preparation of the zoning plan similar steps are taken. The draft of the plan should be consulted with state bodies and county authorities, as well as with interested local groups and organizations. After first political decisions about the adoption of the project are taken, they shall be made available for the public. The information about public inspection should be announced in two newspapers. Inspection lasts 30 days and everyone can express opinion about the inspected plan in a written form. After public hearing, planners have the responsibility for deciding which opinion should be taken into account.

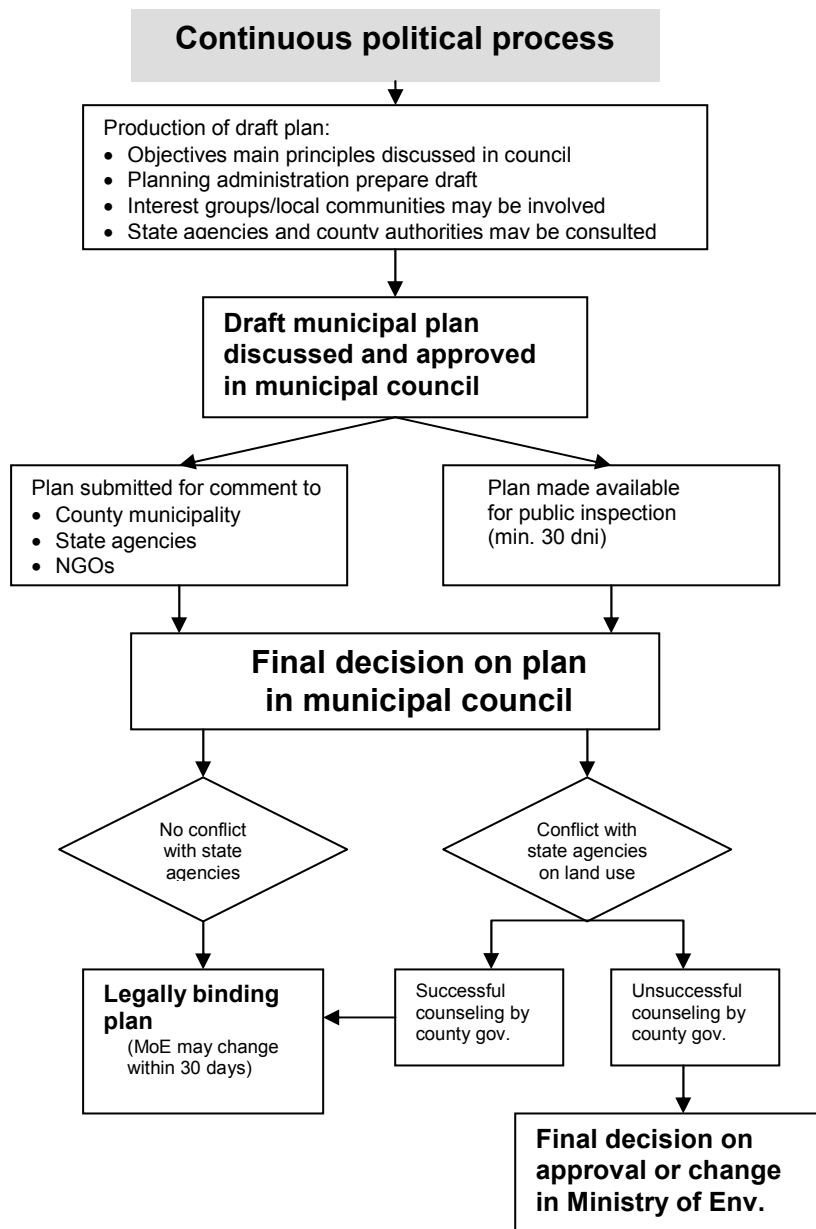


Fig. 5. Planning procedure in municipal planning

Source: Naustdalslid, J., Tombre E. (ed.), 1997, *Compendium of Spatial Planning Systems and Policies, Norway, NIBR Report*

During formal process planners usually limit public participation to requirements stated in the Planning and Building Act. It takes place in most cases of preparation of zoning plans, when they are not significant for local scale. On the other hand, during preparation of municipal plans public participation process is more emphasized. On this level of planning politicians are interested in the involvement of people in order to have all points of view and to become familiar with different perspectives. Municipalities may organize working groups with experts and representatives of organizations. Local citizens sometimes participate in discussions and meetings during the planning procedure.

Except formal procedure of preparing local plans there are also some informal methods of influence on planning process. Due to the fact that this informal part is very complex, it is only mentioned briefly in this report and needs further studies.

In practice, informal part of planning process begins long time before announcement in newspapers and carries out after taking decision on plan in municipal council. Before starting formal planning procedure investors make informal contacts with authorities and politicians. At this stage, they come to agreement about a general frame of the plan. Another type of informal method is lobbying towards local politicians responsible for approval of local plan. It starts when formal discussions about the plan takes place and continuous until plan becomes legally binding. During lobbying, the interested groups, including private investors, NGOs', local politicians and inhabitants, try to change the decision about plan in order to make it suitable for them.

In Poland public participation has developed for the last 10 years and current rules of it are described in Spatial Planning and Land Management Act from 2003. According to this Act, ways of public participation are included in the planning procedure (see Fig. 6). There is a possibility for everyone to express the opinion after announcement about proceed to preparing local spatial plan and study of conditions and directions in spatial planning of municipalities. It is also obligatory to organize public inspection with public discussion about the draft of plan or study. Public discussion, which was introduced in 2003, is one of the key elements in the Polish procedure. It often appears as a negotiation between the local authorities, planners, investors and the inhabitants of the areas included in local spatial plan. During this process everyone has an opportunity to present their point of views, doubts and comments related to the plan.

During and after the public inspection everyone can express their opinion about the inspected draft of plan or study by submitting comments in written form. This form of objecting to the provision of the plan or study was introduced by The Spatial Planning and Land Management Act of 2003.

One of the main differences between Norway and Poland are the ways of opinion draft of plan with public and private institutions. In Norway, a system of negotiations exists between municipal authorities and interested organizations. Municipalities organize informal meetings and workgroups in which they come to agreement with those institutions. As it was stated, when there is no agreement, sides can use objections against the plan. In Poland there is system of opinions and agreements with relevant public institutions, which must be considered during preparing a spatial plan or study. If opinions are not taken into account, voivodeship governor can reject the plan.

There are also some differences during the public hearing procedure. Norwegian municipalities try to involve citizens on an early stage of preparing local plans by organizing informal meetings with them. Those meetings are not obligatory and are organized if such a need occurs. Authorities encourage people to establish local associations, which can participate in the planning process. In Poland, it is necessary to arrange a public discussion about the inspected plan.

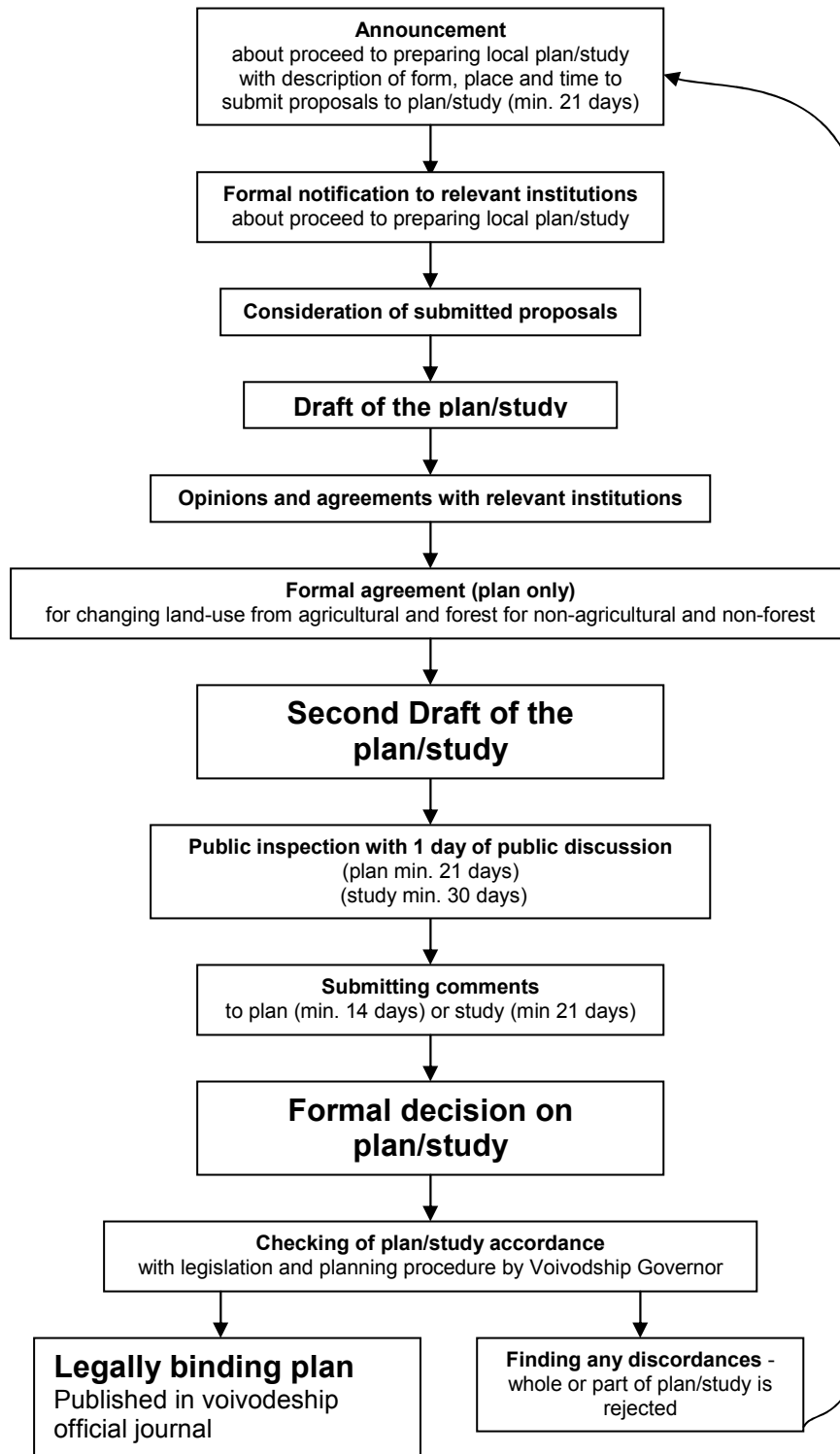


Fig. 6. Planning procedure in municipal planning

Source: self prepared sources

That is why, in Poland informal meetings are hardly ever organized during the preparation of a draft of the plan.

Summary and conclusions

In presented report, authors attempted to characterize and compare briefly Norwegian and Polish spatial planning systems. On the base of the collected materials and carried out interviews undertook analysis of main areas of spatial policy in both countries.

Organization of planning policy in Norway and Poland is based on planning legislation. There is introduced planning procedure in national jurisdiction in both countries. Basic assumptions of planning acts were identified.

Spatial planning in both countries is divided into national, regional and local level. Planning documents are carried out on all levels, and they are related with each other. Main documents with their aims are described briefly in the report. It also includes case-studies – Oslo in Norway, and Krakow in Poland, as examples of local spatial policy in urban areas. Report also encloses topics of public participation and environmental policy, because Norway and Poland, as democratic countries put strong emphasis on those issues during local spatial development.

During describing already mentioned subjects authors attempt to concentrate on similarities and differences between both countries. Concluding, the most significant similarity is three levels of planning system with local level as a basic unit. Local spatial management is performed by planning authorities integrated in municipal councils. In Norway, as well as in Poland, local spatial plans are most important, legally binding planning documents in local jurisdiction. General guidelines of spatial policy are provided on national level. Another important resemblance is that EIA are obliged during preparation of regional and local planning documents. Lastly, involvement of local community and public hearing is needed whilst preparing plans.

Comparison of Norwegian and Polish spatial planning policy revealed some significant differences. Firstly, both countries have “top-down” planning system, but it is much more modified in Norway than in Poland. Municipalities in Norway are very strong and counties are relatively weak. In Poland regional level have much more power than its’ Norwegian equivalent. That is one reason why planning on this level has stronger influence on local spatial policy in Poland than in Norway. It takes place mainly throughout Capital Investments Serving Public Purposes. Secondly, there are different types of system of alignments draft of spatial plans with relevant authorities or institutions. As it was written in a report, in Norway this process may take place by “face to face” negotiations during meetings, in Poland there is system of agreements and opinions, which is always carried out in a written form. Thirdly, there are also differences in checking procedure after adoption of local plan. In Norway plan can be stopped by using objections in case of conflict of interest. In Poland, it might be rejected by governor if any discordance would be found.

Due to the fact, that spatial-planning is a very broad and complex issue authors concentrated on answering the questions stated in introduction. Examine of interrelations between planning levels shows that in both countries all of them are linked together. According to planning legislation main planning issues mentioned in higher level have to be considered in lower level documents. In legislation of both countries it is stated exactly which concerns of national significance should be carried to regional and then to local level.

In Poland it usually takes place in practice. In Norway, because of unclear and conflicting national guidelines, there is more flexibility in choosing them. Municipalities may relate national goals according to their needs.

Land-use management in both countries is specified on local level. In Norway, it is included in municipal master plans, and especially in zoning plans. Polish study points out general land-use in municipalities; more detail land-use is presented in local spatial plans. Either in Norway or in Poland, there are only guidelines for land-use on regional level.

Trends of spatial management in urban areas are presented in case-studies of Oslo and Krakow. The main problem that city planning authorities have to deal with is pressure from investors to extend build-up areas and make them denser. Because of that, city authorities attempt to revitalize post-industrial areas in multi-functional districts which have been presented in the examples of the Spatial Plans of Bjørnsvika and Zabłocie. During planning process city authorities try to improve transport system, and develop city land-use with preservation of green areas.

Participation of local citizens formally takes place during public hearing period. When project of plan concerns people interests, they may participate very actively. They can express their opinion about plan in written form and are involved in discussions organized by local authorities. In Norway meetings are organized, when it is necessary, contrarily to Poland, where organizing public discussion is obliged by law.

Concluding the main problem of spatial planning in Poland is slow and extended planning procedure on local level. This complicated planning procedure results in lack of local spatial plans. Insufficiency of plans is one of the biggest barriers in development process and hits mostly into construction sector.

Norwegian planning policy struggles with other main problems. In report it was noticed, that during planning process they can occur some endangers for public participation. Investors are not interested in involving local inhabitants in planning process, so they often discuss their proposals only with planning authorities. It takes place before starting of official planning procedure.

Another problem in both countries is planning in protected areas especially in their buffer zones. It is often difficult to agree development in those areas with authorities of protected land. In Norway as well in Poland, as a result of pressure from investors and citizens too many plots are indented for development (mostly building) purposes. It takes place at the expense of agricultural land that is in conflict with state policy of protection of those areas.

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ECOLOGICAL CORRIDORS IN SPATIAL PLANNING

Abstract. In order to enable migration of plants and animals between various distant ecosystems, it is necessary to maintain ecological corridors between them. Spatial planning, especially that on the local level where spatial shaping methods are directly regulated, plays an important role here.

Key Words: ecological corridor, spatial planning

1. Introduction

The official definition of an ecological corridor is included in Art. 5 of the Nature Preservation Act of 2004 [8], which defines the ecological corridor as an *area that enables migration of plants, animals, or fungi*. Other formal provisions are included, among others, in the following documents:

- Art. 23.1. of the Nature Preservation Act, according to which *also a protected landscape area may perform the function of an ecological corridor*,
- Regulation of the Minister of Environment of 28 September 2004 [6], which specifies ways of preservation of wild animal species, consisting in:
 1. *establishing and maintaining corridors to enable migration*,
 2. *ensuring the passability of flows that constitute migration routes, including the construction of fish passes and canals*,
 3. *demolishing obstacles and constant maintaining of fish passes*,
 4. *installing passages for animals under and above public roads and railway tracks*.

The succinct nature of those definitions and provisions requires a broader discussion. According to R. Olaczek [2] "*main ecological links are the ecological corridors in the form of a strip of land, along which living organisms can move to far distances, and in which they have suitable environment and safety conditions. Natural ecological corridors include rivers and river valleys, sea coast belts, or mountain passes. Corridors may have national or international reach; the latter may include, e.g. bird migration routes. An ecological corridor is not always a linear structure, like e.g. a river. There are ecological corridors, which, although not having a structural continuity, still maintain their functional continuity, e.g. forest islands that are migratory birds' sanctuaries.*

*Places in which ecological corridors cross, or (more often) areas of a large extent of naturalness and accumulation of living organisms, from which they set for an expansion to the outside are called **ecological nodes**, or when they cover large ecologically diversified areas, **nodal areas**.*