

Forest management plan in Poland – problems and development directions

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Abstract. Nowadays, improving forest management is done by way of amendments to the forest management instructions, silvicultural rules and forest protection instructions. From the point of view of forest management, the most important is the forest management plan, the basic document prepared for a specific object, containing a description and assessment of the state of the forest, as well as the objectives, tasks and ways of forest management. Before each subsequent revision of the forest management guidelines, new instructions are developed in consultation with the public, based on discussions on the proposed changes that are in each case to serve as the best plan for forest management. The forest management plan is vital as it ties together silviculture, conservation, production and non-production purposes as well as social forestry tasks, but only if the primary and operational nature of the objectives considered at the stage of creating the plan are recognized. Therefore, the role of forest management in shaping and protecting the environment cannot be overestimated. In this work, we outline the basic principles and rights related to both, forest management under various forms of ownership, as well as detailed guidelines for the content of the forest management plan.

We found that the specificity of mountain forests requires the use of different rules and methods. Taking into account the existing rich scientific achievements, it is tempting to attempt to develop forest management instructions specifically for mountain forests, whether in the form of a separate chapter or a separate publication.

The basic problem with forest management under other forms of ownership (urban, experimental, private forests) is the lack of a detailed legal basis accounting for their specific nature. Therefore, appropriate steps should be taken towards introducing appropriate new or supplementary provisions into the forest legislation, which would allow for the development of modern standards.

For the State Forests, forest management instructions should be prepared by a team of experts appointed by the Minister of the Environment who will approve the finished document for official use.

The forest management plan should include an economic annex focused on the forecast of the expected financial result, including costs associated with a deviation from the optimal due to social or protective reasons.

Keywords: Mountain forests, urban forests, experimental forests, private forests, social factor, economic factor

1. Introduction

Characteristic for forestry is improvement of forest management rules as a result of gained knowledge and experience. As early as 1810, Kobierzycki wrote that ‘Z smutnych doświadczeń zebrane reguły, są wiadomością, którą na bydz,

każdy lasu gospodarz jak nayusilney starać się powinien”¹. Whereas Strzelecki (1874) stated that „Niedziw więc, że od leśnika tak obszernej wielostronnej wymaga się wiedzy;

¹Old-Polish quote: ‘Rules gained from hard experience are a message, which every landlord should try to acquire.’

do rąk jego bowiem przywiązany jest dobrobyt krajów, pomysłowość lub przekleństwo całych pokoleń.²²

Nowadays, improving forest management is done by way of periodic amendments to the forest management instructions, silvicultural rules and forest protection instructions. From the point of view of forest management, the most important is the forest management plan, the basic document prepared for a specific object, containing a description and assessment of the state of the forest, as well as the objectives, tasks and ways of forest management (Forest Act 1991). Before each subsequent revision of the forest management guidelines, new instructions are developed. It is a result of discussion on proposed changes, which in each case are to serve the best plan for forest management (Adamowicz et al. 2016; Jaszczak et al. 2018a), in consultation with the public (Jaszczak, Wajchman 2014). The importance of this document is showed already on the stage of creation of forest managements plans, where synchronization of silviculture, protection and non-protection and social forestry tasks can only be made in case of acknowledging primary and operational character of the objectives (Borecki, Stepień 2017). Overestimated cannot also be the role of forest management in the process of creation and conservation of the environment (Jaszczak et al. 2017b, 2018c) and in regional planning (Jaszczak et al. 2020).

In European forestry, of great importance is social participation. Without it, there would not be any sustainable forest management (Leskinen 2004; Tabbusch 2004; Public... 2006; Janse, Konijnendijk 2007; Garcia, Marey-Perez 2014). Forest management plan in sustainable; multi-functional forestry is seen as important political instrument, however of ambiguous social perception (Brukas, Sallnäs 2012). In different European countries, forest management plan has different legal basis, range and contents (Forest Management Plan... 2013; Mayer 2013; Oesten 2013) and often is related with the necessity for seeking solutions that join environmental functions with social expectancies and, what is important – economic and financial functions (Kleinschmit et al. 2014).

Urban forests in Europe are becoming more important. Their main economy goals should be directed towards inhabitants' need for rest rather than wood production (Konijnendijk 2003; Konijnendijk et al. 2006; Ważyński 2007). Common problem in Europe is the lack of clear legal basis concerning forests within administrative borders of towns, different concepts and definitions of urban forests. Possible regulations for them are very general. However more and more cities are introducing their own solutions for mana-

gement of forests within their borders (Konijnendijk 2003; Schmied, Pillmann 2003). Sangster et al. (2011) and Jaszczak et al. (2017a) think, on the other hand, that the source of information needed for planning and managing urban forests is often, due to functions they perform, too small. Therefore, the content of forest management plan for urban forests should be extended, because the method of urban forests' management should reflect their perception by inhabitants and lead to meeting social needs, which usually is not included (Germann-Chiari, Seeland 2004). An answer to question is sought, whether management of such type of forests is dedicated to recreational function, or is it managed regardless (Jay, Schraml 2013).

Like in the case of commune forests, also in private urban forests noticed are possibilities of providing, to a bigger extent, ecosystem services for the benefit of society, while at the same time re-evaluating main, raw material-production purpose of forest management (Quiroga et al. 2019).

There is still need in Europe for determining both basic rules connected with management of forests of different types of ownerships and detailed guidelines for forest management plan. Chosen spatial, administrative, law, social and economic aspects were an object of this thesis.

2. Geographical factor in the process of creating forest management plan – mountain forests

Management of mountain resources requires specific rules of proceeding, subordinated to the idea of landscape protection (Przybylska 1996). Meanwhile in Poland, little space is given to mountain forests, which despite their unique conservation and landscape qualities, have no separate – adjusted to their functions and character – rules and instructions for creating forest management plan (Przybylska 2000). There is elaborated however an empirical model, from which results, that the system for management planning for different-age mountain forests should be subordinated to course of natural forest formation process, that is, renewal, survival and declining of trees. Primary goal for management is to reach such character of forest, so that it fulfils in optimal way priority functions for the given area. Decision on expedience of realization of defined management treatment should result from both environmental needs and economic analysis (Banaś, Zięba 2001, 2012; Banaś 2007, 2010). An example of rules and methods of mountain forests inventory, with regard to their specificity, are given in Przybylska's (1996, 1999) and Przybylska et al. (2006) elaborations. Included there are also suggestions regarding i.a. distinc-

²²No wonder, that from a forester required is such extensive and various knowledge; to his hands tight are wellness of countries, prosperity or a damnation of whole generations.'

tion of forest management units, establishing the so-called age classes and also regulation rules.

3. Administrative and legal factor in the process of creating forest management plan

Forests within cities' administrative borders, as public non-state forests, are grouped with private forests with law consequences, which are mismatched with their functions and purposes of urban forests as a place for rest and regeneration for town's inhabitants. Legal status of such forests should be changed. From forest management point of view, postulated is that to Forest Act introduced should be the notion 'urban forest management plan,' which could be a full version of this document, prepared by the order of town's president or its mayor and at their expense. Project of such plan should be consulted with locally competent head forester, and its final version would be approved by the starost (Jaszczak et al. 2017a). Creating urban forest management plan should also include in a special way public consultations (Jaszczak, Wajchman 2014). Attention is also paid to the lack of ordinances and instructions referring directly to urban forestry and community woodland (Wazyński 1987, 2007, 2011; Jaszczak 2008e; Leśnicy komunalni... 2008; Jaszczak, Wajchman-Świtalska 2016; Jaszczak et al. 2017a). In the context of this discussion, justified is a postulate to introduce "urban forestry" notion to Forest Act. It may allow for law regulations by means of ordinances referring i.a. to the aforementioned documents for discussed group of forests.

4. Forests of Forest Experimental Stations

For Experimental Forests that are not owned by the State Treasury, Forest Act (1991) offers execution of simplified forest management plans, by order and at the expense of their owners (Art. 21, section 1). Plans are being approved and supervised by the starost after getting an expertise of locally competent head forester (Art. 22, section 2, 5).

There are no doubts regarding ordering execution of plan and covering its expenses by Forest Experimental Stations. However, there are some objections regarding the type of plan required and the necessity of approving and supervising execution of forest management plan by starosts and taking into account the opinion of head foresters of the State Forests National Forest Holding (SFNFH). Targets established for experimental and didactic forests and their functions are way beyond the scope of tasks intended by the law for forests of other forms of ownership. For their execution, it is necessary to recognise in possi-

bly accurate way, environmental, spatial, administrative, economic and social conditions within the scope of forest inspectorate operation and their mutual relations and dependences. Realization of such a task does not assure intended by law simplified forest management plan (Jaszczak 2011), especially since it is realized for each starosty separately. Therefore, for example, Siemianice Forest Experimental Station has three simplified forest management plans. It should be noticed that until 2005, experimental forests were land within the State Treasury in the right of perpetual usufruct of the university for which full versions of forest management plans were created. Under such circumstances justified seems postulate to introduce into Forest Act a notification that 'forest management plans are created for forests owned by the State Treasury and forests managed by Forest Experimental Stations' (Art. 19.1.) and to make a change in notations about assessment and supervision over experimental forests.

5. Private forests

The most common problem when introducing rational forest management in private forests and executing effective supervision over them is the lack of simplified forest management plans or forest state inventory. Forest Act does not specify who should bear the costs of creating the mentioned documents (Jaszczak et al. 2018b). Also, the legal nature of forest management plan is discussed, since hitherto not regulated was a form of document approved by the starost (Geszprych 2008). It should be noticed that in the past, in actions connected with forest management, far less attention was paid to private forests, for which in the 19th and 20th century, relevant instructions and rules were made, mentioned and described in Jaszczak elaborations (2008a-d) (Jaszczak and Magnuski 2010, 2012; Jaszczak et al. 2018b).

6. Social factor in the process of creating forest management plan for forests owned by the State Treasury

Forest Management instruction in Poland should be a tool for creating permanent, multi-functional and sustainable forest management. Through the procedure of creating forest management plan, it should socialize the process of managing forests within ownership of the State Treasury including the ones managed by the State Forest's National Forest Holding. In this context, two issues appear: who should be the employer and the author of the following issues of forest management instruction and how to encourage and allow so-

ciety to participate in the following stages of creating forest management plans for forests owned by the State Treasury.

In the first case, it should be noticed that subsequent post-war forest management instructions were approved by: the Minister of Forestry and Wood Industry (1957, 1980); Deputy Minister of Forestry and Wood Industry (1970); under-secretary of the State in the Minister of Environmental Protection (1994); Managing Director of the State Forests (2003, 2012). Instruction was written usually by the team of people representing research centres, Bureau for Forest Management and Geodesy, ministry to which forest inspectorate was subjected, regional directorates and General Directorate of State Forests. An objection appears, whether the State Forests National Forest Holding should be a party in writing instruction for evaluation that is run by its units (as it takes place since 2003), or should this document be created in an independent way, for example, on the initiative of the Minister of the Environment (as it was done until 1994), who presently approves forest management plans for forest inspectorates elaborated by the unit also independent from the State Forest National Forest Holding.

Irrespective of this, it should be recalled, that the discussion continues on importance and primacy of different management plans elaborated for the same areas and overlapping competences between the agencies of environment protection and the State Forests National Forest Holding (Dawidziuk, Zajączkowski 2011, 2014; Przypaśniak 2013; Wasiak 2013). So does on different aspects of participation of the public in the process of creating forest management plans (Dawidziuk, Zajączkowski 2010; Grygier 2011; Jaszczak, Wajchman 2014; Dawidziuk et al. 2016; Orzechowski, Kamińska 2018). This results partly from the fact that forest management instruction is not a document independent from the State Forests National Forest Holding. From the above results, an offer to restore the situation from before 2003, where minister in charge of environmental performance, and not the managing director of the State Forests, appointed possibly wide team of experts, representing different communities to write forest management instruction and approved for use in its subsequent issue. It is essential for the team to be composed of scientists and practitioners connected with forestry and nature protection and spatial planning.

Obligation of public consultation is regulated on the basis of provisions of Act on Providing Information on the Environment and Environmental Protection, Public Participation in Environmental Protection and on Environmental Impact Assessment (2008), which are included in Forest Management Instruction in force (2012). However, participation of the public in creating forest management plans is minimal (Grygier 2011). It may result from the

fact, that those documents are written in specialized language and consist of many detailed and sometimes redundant information, which makes it difficult to communicate with interested people from outside the forestry (Jaszczak, Wajchman 2014; Jaszczak et al. 2018a). Mentioned circumstances can often be a reason for conflicts between foresters and society. Meanwhile, forest management plan should be a document offering a compromise between often conflicting expectations of foresters, social organizations, wood industry, local government and inhabitants. The applicable procedure of creating forest management plan for forest inspectorate, written down in Chapter 6 of Forest Management Instruction (2012), should point in a wider range at the possibility of public consulting, with taking into account the obligation of presenting interested parties' most important information, explaining particularly the effects of its realization on the environment and local community. It should also be presented in simple, non-specialized language. Interesting is the suggestion of Przybylska (1998), to change the title of forest management plan – 'forest management plan and protection and access to environmental and cultural values of forest inspectorate.' It would be a tribute to the society, to signal that foresters do not focus only on economic function of forests, but also within the permanently sustainable and multi-functional forest management, they realize a number of other tasks.

It should be emphasized, that public consulting does not refer only to forests within the State Treasury ownership. Issues presented above are also still valid and significant to other forms of forests' ownership. For example, owners of private forests usually have little knowledge on the subject of managing forests and forest law, which can also be the reason for filing remarks to project plans. It can result in a necessity for organizing courses and consultancies provided by the services supervising forest economy in the time preceding the creation of project of plan and during making the plan available for inspection (Orzechowski, Kamińska 2018).

7. Economic factor in the process of creating forest management plan

Wysocka-Fijorek (2015, 2018) paid attention to the fact that provisions in forest management instructions regarding economic conditioning repeatedly did not find any reflection in forest management plans. Dawidziuk and Zajączkowski (2011, 2013), Banach (2013), Wysocka-Fijorek (2015, 2018, 2019) and Adamowicz et al. (2016) believe that economic expertise of forest inspectorate should be an integral part of this document. Głaz et al. (2008) suggested at the same time that increasing costs of realization of non-productive functions of forest should result in more dynamic forest manage-

ment plans. Projected plans should be correlated more with costs and revenues of forest management unit, and forest management plan should include prognosis of constituent element of financial account.

When identifying risk of managing forest unit, an important role play retrospective data analysis and review of basic assumptions of forest management plan. It allows for recognition of all the problematic events finding reflection in the disruption of realization of two significant forest functions – production and non-production. The role of risk identification in forestry is to find all negative events, which presently or in the future may be an obstacle in performing production or non-production functions (Michalski, Adamowicz 2018). Wysocka-Fijorek (2019) offers, on the other hand, the use of comparative analysis between data from the forest inspectorate and other units, which should contribute to the objectification of share of the assets from the forest fund.

Calculation of the amount of income of forest unit in dependence on age rotation allows to assess what financial loss would carry given forest unit if used was cutting age different from the optimum; for example under public pressure (Bednarski, Miścicki 2016). Despite the above listed arguments for developing economic expertise and proper provisions in Forest Management Instruction in force (2012), such document is not elaborated due to the analysis of former economy in financial context, which raises a number of doubts. A possible direction seems a prognosis of financial result including the prognosis of financial income on the basis of planned size of main cutting and connected with it assortment-species structure. Considerable is also the possibility of presenting variant size of cutting, including all the limitations resulting from environment conservation, recreational land use and without any conditioning. Extending the analysis of forest inspectorate activity with the costs on nature protection, forest education, recreational land use and other planned investments is also necessary.

8. Summary

Specificity of mountain forests require using different rules and methods of management. Taking into consideration the wide scientific and empirical achievements, an attempt could be made to elaborate forest management instruction for mountain forests, whether as a form of separate chapter or separate publication.

Basic problem connected with urban forests management, forest experimental units and private forests is the lack of legal grounds taking their specificity into account. Some actions should be taken towards introducing provisions into legislation, which could allow for elaboration of modern standards for creating forest management plans for those groups of forests.

Forest Management Instruction for the forests of the State Forests National Forest Holding should be elaborated by a team of independent experts and approved by the Ministry of the Environment.

In forest management plan, there should be an economic elaboration, focused on financial result prognosis, including i.a. costs of deviation of performing optimum size of cutting due to social or conservation reasons.

Conflict of interests

The authors declare lack of potential conflicts.

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Authors' contribution

R.J. – koncepcja i idea, przegląd literatury, napisanie pracy, wnioski, korekta; J.B. – koncepcja i idea, wnioski, korekta.