Forest resource dynamic in Republic of North Macedonia in the period from 1961 to 2016

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Abstract:

Unlike classical forestry which has been oriented towards the demands of sustainable wood supply, modern multifunctional forestry is oriented to fulfilment social, economic, ecological, cultural and spiritual human needs of present and future generations. The Forest Principles arisen from the conclusions of the Earth Summit as well as MCPFE resolutions provide tools used to define, guide, monitor and assess progress towards sustainable forest management (SFM). The main source of current and long term forests resources information provides National Forest Inventories.
At the state level, in the Republic of North Macedonia (RNM) three mass statistical operations (census) have been performed so far to assess the forest resource, 1949/50, 1961 and 1979, but all three rely on management inventories made with temporary simple plots, estimation using growth tables related to other environmental conditions or expert opinion. In this paper an attempt is made to perceive the dynamics of the forest resource in the RNM through information from the years 1961 and 1979 forest censuses, report of State Statistical Office (SSO) about 2016 as well as analyzing all forest management plans, state on 31.12.1989 and 31.12.2016. According to the two last censuses as well as the information from the SSO, the total forest cover area is estimated at 887517ha, 905653ha, 1001665ha, respectively. Area of forest for which forest management plans have been developed, managed forests (MF), in 1979 is 744981ha, in 1989 is 817891ha and in 2016 is 888649ha. Average growing stock (AGS) in 1961 is 70.8m3/ha and in 1979 is 82.1m3/ha or 0.63 m3/ha/ year. Related to MF, AGS in 1979 is 87.9m3, in 1989 is 97.2m3/ha and in 2016 is 104.7m3/ha. Average growing stock in MF in the period 1979-1989 is increased for 9.3m3/ha or 0.93 m3/ha/year and for the period 1989-2016 is increased for 7.5m3/ha or 0.28 m3/ha/ year. Annual volume increment in MF estimated 1979, 1989 and 2016 is 2.1, 2.2 and 2.0m3/ha, respectively. Presented data show that the total forest cover area in the analyzed period has increased by 114148ha or by 12,9%. One of the main reason to the expansion of the forest area, mainly driven by large-scale afforestation program running from 1971 to 1990 and spontaneous regeneration on abandoned agricultural land caused by the accelerated rural exodus

in the second half of the 20th century. There is also an increase in the growing stock but the intensity of increase in the period 1989-2016 is significantly reduced which is observed in the annual volume increment

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