

Međunarodna godina šuma u svjetlu 50-godišnje uske suradnje hrvatske šumarske znanosti i struke

U Republici Hrvatskoj, na prilično malom prostoru, vladaju raznoliki ekološki uvjeti koji utječu na formiranje staništa na kojima se nalaze raznovrsne šumske zajednice s brojnim biljnim i životinjskim vrstama.

Prirodne šumske zajednice obilježavaju različite pojase šumske vegetacije koji se protežu od sredozemnih, nizinskih, brdskih, gorskih do visokoplandinskih područja. Svaka od njih, bez obzira na stanišnu i životnu raznolikost, tijekom svoga života trajno proizvodi dobra izražena u gospodarskim i općekorisnim vrijednostima, koja su prijeko potrebna za kvalitetne životne uvjete.

Da bismo šumom uspješno gospodarili i održavali njezinu vječnost na određenom životnom prostoru ili staništu, moramo poznavati sva njezina obilježja bitna za opstanak, koja šumarstvo mora uzimati u obzir pri gospodarenju njome.

Šumu čine šumsko tlo suvislo obraslo šumskim drvećem, grmljem i prizemnim raščem, gdje se trajno proizvodi drvna tvar i općekorisna dobra izražena u ekološkim (zaštitnim), društvenim (socijalnim) i socijalno-ekofiziološkim funkcijama, u kojoj vlada ravnoteža i uzajamni odnosi između životne zajednice ili biocenoze (biljke, životinje, mikroorganizmi) i staništa (tlo, klima, reljef).

Zbog vjekovne ugroženosti šuma, stihijskih sječa i opravdanoga straha od mogućnosti njihova nestanka, što se na većem dijelu Zemlje već dogodilo i što se i danas događa, u Europi se u 17. stoljeću utemeljuje šumarstvo kao organizirana struka koja će se na znanstvenoj i stručnoj osnovi brinuti za šume.

Šumarstvo je znanost, struka i umijeće gospodarenja i očuvanja šumskoga ekosustava za trajnu dobrobit društva, okoliša i gospodarstva. Ono se brine za uravnoteženo i potrajno gospodarenje šumama, maksimalne prinose, kvalitetno pomlađivanje i njihovu vječnost. Istodobno vodi brigu o životinjskom svijetu, obilnim i trajnim pričuvama pitke vode, privlačnom i rekreacijskom okolišu i u prirodnim i u

urbanim sredinama, te o raznovrsnim uslugama i proizvodima.

Definicija šume i kratak opis šumarstva govore i o obilježjima šuma, dobrima koja nam daju i zadacima šumarske struke koja ta dobra trajno održava. Dobra koje nam šume danas pružaju prelaze okvire šumarske struke jer su temeljni životni uvjeti koji imaju neprocjenjivu vrijednost i značenje za cijelo čovječanstvo i njegov opstanak. Te spoznaje o značenju šuma i šumarstva bile su razlog da Forum za šume Ujedinjenih naroda, na inicijativu Republike Hrvatske, na 5. zasjedanju u svibnju 2005. godine pokrene proceduru da se 2011. godina proglasi Međunarodnom godinom šuma. Zbog toga je rezolucijom Opće skupštine UN-a od 20. prosinca 2006. ova godina proglašena Međunarodnom godinom šuma.

Hrvatska je šumarska struka ponosna što se, na njezin poticaj, ove godine u cijelom svijetu šume stavljaju u središte zanimanja svekolike javnosti, što će sigurno biti razlog veće zaštite i očuvanja, a to znači i boljega gospodarenja šumama. Isto tako ponosni smo što su nam šume najprirodnije, najkvalitetnije i najstabilnije u Europi, za što je zaslužna šumarska struka koja je imala uvijek jasne ciljeve gospodarenja koji su šume vodile u dobru budućnost.

Da bi se došlo do današnjega stanja šuma i šumarstva u Hrvatskoj, bilo je nužno prijeći dug i trnovit put. On počinje osnivanjem šumarstva kao struke i znanosti prije nekih 250 godina ili, točnije, 1765. godine, kada je napravljen »prvi šumarski stručni opis i nacrt šuma« za šume triju pukovnija: Ličke, Otočke i Ogulinske, i kad su osnovane tri šumarije: u Krasnu, Oštarijama i šumi Petrova gora. Te je iste godine napravljen i objavljen »definitivni šumski red« sastavljen od 34 točke s odredbama o sječi šuma, izvozu i trgovini.

Da bismo dobili cjelovitu sliku zbližavanja i suradnje hrvatske šumarske znanosti i struke, navest ćemo neke značajnije datume i događanja koja su imala odlučujuću ulogu za hrvatske šume, struku i znanost.

Godine 1769. izlazi Šumski red Marije Terezije na hrvatskom i njemačkom jeziku, koji je istodobno prvi udžbenik i zakon o šumama. U prvoj polovici 19. stoljeća školuju se naši ljudi na Šumarskoj akademiji u Mariabrunnu u Austriji i drugim europskim središtima, od kojih spominjemo Tomića, Šporera i Kosa, jer su u to vrijeme imali važnu intelektualnu, stručnu i domoljubnu ulogu u javnom životu tadašnje Hrvatske.

Godine 1852. izlazi Zakon o šumama koji se i danas smatra najboljim zakonom u Europi jer je, uz ostalo, definirao potrajnost ili održivi razvoj u šumarstvu. Godine 1846. osniva se Hrvatsko-slavonsko šumarsko društvo čija je velika aktivnost bila usmjerena na otvaranje hrvatskoga šumarskoga učilišta na domaćem tlu, što je i učinjeno 1860. kad je osnovano Gospodarsko-šumarsko učilište u Križevcima. Već 1877. izlazi prvi broj znanstveno-stručnoga glasila *Šumarski list* koji neprekidno izlazi do danas.

Temeljem novoga Zakona o šumama od 26. 3. 1894. određeno je da se pri Vladi osnuje poseban Šumarski odsjek i određuje se nužnost »akademičke naobrazbe« za šumarsku tehničku službu, što je bio razlog preseljenja šumarske nastave iz Križevaca na Sveučilište u Zagrebu. Tako je 20. listopada 1898. počela raditi Šumarska akademija na Sveučilištu u Zagrebu »prislonjena« na ondašnji Mudroslovni fakultet. Akademija ima trogodišnju sveučilišnu nastavu, a već se školske godine 1907/08. osamostaljuje s vlastitim pročelnikom i četverogodišnjom nastavom.

Isti dan kad je počela raditi Šumarska akademija otvara se novosagrađeni Šumarski dom, vlasništvo Hrvatsko-slavonskoga šumarskoga društva u kojem je ona smještena. Akademija je dala velik doprinos razvoju šumarske znanstvene i stručne misli na našim prostorima. Već 1907. godine tri značajna šumarska stručnjaka stječu doktorat znanosti: Andrija Petračić i Đuro Nenadić na Šumarskom fakultetu u Münchenu, a Aleksandar Ugrenović na Mudroslovnom fakultetu u Zagrebu.

S pravom možemo tvrditi da je Šumarska akademija preteča svih tehničkih fakulteta u nas, jer su se na njoj prvi put na Sveučilištu u Zagrebu predavali »matematički predmeti i grafičke radnje«, kao što su: Matematika I i II, Deskriptivna geometrija I i II, Konstruktivno risanje, Geodezija I i II i Tehničko risanje I i II. Predavali su se i tehnički predmeti, npr.: Opće graditeljstvo I i II, Tehnička i građevna mehanika, Vodo i mostogradnja I i II, Gradnja cesta i željeznica, Bujičarstvo, Šumsko strojarstvo i Šumska otpremna sredstva. Matematičke i tehničke predmete predavali su u ono vrijeme priznati i poznati stručnjaci: O. Kučera, L. Stjepanek, V. Hlavinka, P. Horvat, S. Setinski, A. Mohorovičić i dr. Većinu na-

vedenih imena možemo naći na popisu poslije osnovane Tehničke akademije u Zagrebu i u Pragu.

Dana 31. kolovoza 1919. potpisan je ukaz o osnivanju Gospodarsko-šumarskoga fakulteta Sveučilišta u Zagrebu spajanjem Šumarske akademije u Zagrebu i Gospodarsko-šumarskoga učilišta u Križevcima. Šumarski odsjek ostaje i dalje u zgradi Šumarske akademije koje je vlasnik Hrvatsko-slavonsko šumarsko društvo u Zagrebu. Prvi izabrani dekan Gospodarsko-šumarskoga fakulteta bio je ugledni šumarski stručnjak prof. dr. Andrija Petračić.

Krajem 1921. osniva se Zavod za šumske pokuse na Gospodarsko-šumarskom fakultetu. To je prva znanstvena istraživačka ustanova koja treba pokusima i znanstvenim istraživanjima promicati šumarsku znanost i gospodarstvo. Početna su istraživanja posvećena sušenju hrastika, a u statutu Zavoda doslovno piše: »Referent treba da se što više osvrće na praktičnu vrijednost i važnost pojedinih pokusa za šumsko gospodarstvo«. Prvi su rezultati istraživanja objavljeni u prvoj knjizi zavodske edicije *Glasniku za šumske pokuse*. Zavod je radio do 1961. godine.

Savjet već tada samostalnoga Šumarskoga fakulteta u Zagrebu 1. lipnja 1961. donosi odluku, a Izvršno ju vijeće Sabora NR Hrvatske potvrđuje, da se osnuje Institut za šumarska istraživanja Šumarskoga fakulteta Sveučilišta u Zagrebu. Osnovani je institut pod tim imenom radio do 29. 2. 1968. kad se Institut osamostaljuje, a Šumarski fakultet prestaje biti osnivačem. Iste godine Savjet Šumarskoga fakulteta na prijedlog Vijeća nastavnika donosi odluku o osnivanju i početku rada Zavoda za istraživanja u šumarstvu na Šumarskom fakultetu u Zagrebu. Zavod se bavi znanstvenim radom, radovima na unapređenju proizvodnje, izradom ekspertiza, davanjem mišljenja i savjeta, izradom investicijske i tehničke dokumentacije za šumarstvo, održavanjem tečajeva, seminara, objavljivanjem znanstvenih i stručnih radova i sudjelovanjem u nastavi.

Šumarski institut u Jastrebarskom osnovan je 1945. godine te je bio pretežno fondovski financiran sve do razdoblja od 1960. do 1965. kada Fond za naučni rad i Fond za unapređenje šumarstva (FUŠ) prestaju financirati znanstvena istraživanja.

Godine 1961. kada se osniva Institut za šumarska istraživanja Šumarskoga fakulteta Sveučilišta u Zagrebu, istodobno se osnivaju šumska gospodarstva u Hrvatskoj te Poslovno udruženje šumsko-privrednih organizacija. Otada hrvatska šumarska struka počinje organizirano financirati znanstvene projekte, što čini do današnjih dana.

Institut za šumarska istraživanja Šumarskoga fakulteta Sveučilišta u Zagrebu zajedno sa Šumarskim institutom u Jastrebarskom te šumarskom operativom i Poslovnim udruženjem šumsko-privrednih

organizacija izrađuju znanstvenoistraživačke projekte, u koje su uključena fundamentalna, primijenjena i razvojna istraživanja, uglavnom, za petogodišnje razdoblje.

Osnivanjem Javnoga poduzeća »Hrvatske šume« p.o. Zagreb 1990. i njegovim financiranjem znanstvenih projekata u hrvatskom su šumarstvu stvoreni dobri temelji za nesmetan razvoj znanosti, znanstvenoistraživačkoga i nastavnoga rada.

Svaki je od navedenih povijesnih podataka značajan korak koji je tijekom dugoga razdoblja pridonosio opstanku i boljitku hrvatskih šuma, šumarske operative i znanosti. Vrijeme od proteklih 50 godina financiranja znanstvenih projekata velik je dobitak i za šumarsku znanost i za šumarsku struku i šume. To je vrijeme kada su sve šume u Hrvatskoj postale znanstveni i nastavni poligon i kada se uspostavlja plodna suradnja znanstvenika i šumarskih stručnjaka iz prakse, sve na dobrobit šuma i njihova uspješnoga razvoja. To je dovoljno dugo razdoblje pa su rezulta-

ti takva rada vidljivi i uočavaju se na cijelom šumskom području Hrvatske. Uprkos klimatskim i stanišnim promjenama te sušenjima pojedinih vrsta drveća naše šume još imaju mogućnost da svojom prirodnom strukturom i autohtonim vrstama, uz pomoć šumarske znanosti, značajno ublaže takve nepovoljne utjecaje.

Rad na podizanju, njezi i obnovi šuma, koji traje već dva i pol stoljeća, a temeljen je na stručnoj i znanstvenoj osnovi, na načelima prirodnoga gospodarenja, urodio je plodom: u potpunosti smo sačuvali prirodne šume, što nas danas čini posebnim u Europi.

Jedinstvenost naših šuma rezultat je zajedničkoga rada šumarske znanosti i struke te nam to daje pravo da sa zadovoljstvom i ponosom obilježavamo Međunarodnu godinu šuma i 50-godišnjicu plodne znanstvene i stručne suradnje hrvatske šumarske znanosti i struke.

Slavko Matić

International Year of Forests in the Light of the 50th Anniversary of Close Collaboration of Forestry Science and Profession

In the Republic of Croatia, on a relatively small area, there are different ecological conditions affecting the development of stands, where different forest communities are found with numerous plant and animal species.

The natural forest communities characterize different belts of forest vegetation spreading from the Mediterranean, lowland, hilly and mountainous areas to high mountainous areas. Each of them, regardless of the habitat and animal diversity, during its life cycle continuously produces goods expressed as economic values and general benefits indispensable for providing good life quality.

In order to achieve successful and sustainable forest management in a specific habitat or stand, it is necessary to be well acquainted with its features essential for survival, which forestry must take into consideration in forest management.

The forest consists of forest soil covered by forest trees, shrubs and herbs, where wood and general benefits are continuously produced, expressed in ecological (protective), social and social and ecophysiological functions, with specific balance and interrelations between the life community and biocenosis (plants, animals, microorganisms) and the stand (soil, climate, relief).

As forests have been endangered for centuries by uncontrolled felling causing reasonable fear of the possibility of their disappearance, which has already happened in most part of the world and is still happening today, forestry was established in Europe in the 17th century as an organized profession aimed at taking care of forests on a scientific and professional basis.

Forestry is a science, a profession and an art of managing and preserving the forest ecosystem for a permanent benefit of the society, environment and economy. It provides balanced and sustainable for-

est management, maximum yields, high-quality regeneration and sustainability of forests. At the same time it takes care of the animal world, abundant and continuous reserves of potable water, attractive and recreational environment both in natural and urban areas, as well as of various services and products.

The definition of forest and a short description of forestry also define forest features, forest goods and tasks of the forestry profession aimed at permanently preserving these goods. Today, goods provided by the forest exceed the limits of the forestry profession because they are the basic life conditions extremely valuable and significant for the whole humanity and its survival. This awareness of the importance of forests was the reason for the UN Forest Forum to initiate the procedure of proclaiming the year 2011 as the International Year of Forests at the 5th meeting held in May 2005, at the initiative of the Republic of Croatia. As a result this year was proclaimed as the International Year of Forests by the Resolution adopted by the UN General Assembly on December 20 2006.

The Croatian forestry is proud because, at its initiative, this year the interest of the whole world will be focused on forests, and this will surely result in better protection and preservation of forests, as well as in better forest management. We are also proud of the fact that our forests are the most natural, and of the best quality and stability in Europe, which is a direct result of the efforts of the forestry profession that has always had clear management objectives providing good future for the forests.

It was a long and tedious way to get to the present state of forests and forestry in Croatia. It started by the establishment of forestry as a profession and science some 250 years ago, and to be precise in 1765, when »the first professional forestry description and drawing« were made for the forests of three military

districts: Lika, Otočac and Ogulin, and when three forest offices were founded in: Krasno, Oštarije and in the forest of Petrova Gora. In that same year, the »final forest order« was drawn up and published. It was made of 34 clauses containing provisions on felling forest trees, export and trade.

In order to fully understand the way of close collaboration and cooperation between the Croatian forestry science and profession, some significant dates and events are presented bellow that played a decisive role for the Croatian forests, for the profession and science.

In 1769 the Forest Order of Maria Theresa was issued in Croatian and German, and it was at the same time the first textbook and law on forests. In the first half of the 19th century, our people were educated at the Forestry Academy in Mariabrunn in Austria and other European centers, and some of them are Tomić, Šporer and Kos, who had a very important intellectual, professional and patriotic role in the public life of Croatia of that time.

In 1852 the Forest Act was issued and it is still considered the best law in Europe because, among others, it defined sustainability or sustainable development in forestry. In 1846 the Croatian-Slavonian Forestry Society was established and its activities were directed to opening a Croatian forestry school, which was done in 1860 when the School of Agriculture and Forestry was founded in Križevci. As early as 1877 the first issue of the scientific and professional journal *Šumarski list* (Journal of Forestry) was published and it has been continuously published ever since to the present day.

On the basis of the new Forest Act of March 26 1894, a separate Forestry Department was to be established with the Government and »academic education« was required for the forestry technical services. This was the reason for transferring forestry education from Križevci to the University in Zagreb. So on October 20 1898 the Forestry Academy started its activities at the University in Zagreb within the then Faculty of Philosophy. The Academy was organized as a three-year study, and already in the academic year 1907/08 it became independent with its own chairman and the study was prolonged to four years.

The same day when the Forestry Academy started its activities, the newly built Forestry Center was opened, owned by the Croatian-Slavonian Forestry Society, where it had its premises. The Academy highly contributed to the development of the forestry science and profession in this part of the world. As early as 1907, three prominent forestry experts won their doctor's degree: Andrija Petračić and Đuro Nenadić at the Faculty of Forestry in Munich, and

Aleksandar Ugrenović at the Faculty of Philosophy in Zagreb.

We have every right to say that the Forestry Academy was the predecessor of all science faculties in our country, because it was the first at the University of Zagreb to introduce »mathematical subjects and graphic activities«, and namely: Mathematics 1 and 2, Descriptive Geometry 1 and 2, Constructive Drawing, Geodesy 1 and 2 and Technical Drawing 1 and 2. The study also included technical subjects, such as: General Construction 1 and 2, Engineering and Construction Mechanics, Water and Bridge Construction 1 and 2, Rail and Road Construction, Torrent Management, Forest Engineering and Forest Transport Equipment. The teachers of mathematics and engineering were at that time prominent and well known experts: O. Kučera, L. Stjepanek, V. Hlavinka, P. Horvat, S. Setinski, A. Mohorovičić and others. Most of these names can be found in the list of the later on established Academy of Engineering in Zagreb and Prague.

On August 31 1919 the Decree was issued on establishment of the Faculty of Agriculture and Forestry at the University in Zagreb by merging the Forestry Academy in Zagreb and the School of Agriculture and Forestry in Križevci. The Forestry Department still remained in the building of the Forestry Academy owned by the Croatian-Slavonian Forestry Society in Zagreb. The first appointed dean of the Faculty of Agriculture and Forestry was our recognized forestry expert Prof. Dr. Andrija Petračić.

In late 1921 the Department of Forest Research was established at the Faculty of Agronomy and Forestry. This was the first scientific and research institution aimed at promoting forestry science and economy based on experiments and scientific research. The first investigations dealt with dieback of oak forests, and the following statement can be found in the Department statute: »The forester should focus his attention on the practical value and importance of specific experiments for the forest economy«. The first results of research were published in the first book of the Department Bulletin for Forest Research (*Glasnik za šumske pokuse*). The Department operated until 1961.

On June 1 1961 the Advisory Council of the then independent Faculty of Forestry in Zagreb made the decision, confirmed by the Executive Council of the Parliament of NR Croatia, to establish the Department of Forestry Research of the Faculty of Forestry at the University of Zagreb. The basic department worked under this name until February 29 1968, when the Department became independent, and the Faculty of Forestry ceased to be the founder. In the same year, at the proposal of the Teachers Board, the

Advisory Council of the Faculty of Forestry passed the decision on establishment and start up of the Department of Forest Research at the Faculty of Forestry in Zagreb. The Department dealt with scientific research, activities aimed at improving production, development of expertise, giving opinions and advices, preparation of investment and technical documentation for forestry, holding courses and seminars, publishing research and professional papers and teaching.

The Forestry Institute in Jastrebarsko was established in 1945 and it was mostly financed from funds until the period from 1960 to 1965 when the Scientific Research Fund and Forest Development Fund stopped financing the scientific researches.

In 1961, simultaneously with the establishment of the Forest Research Institute of the Faculty of Forestry in Zagreb, forest management areas were also founded in Croatia as well as the Business Association of forest economy organizations. Since then, the Croatian forestry profession has started, and still is, financing systematically scientific research projects.

The Forest Research Institute of the Faculty of Forestry at the University of Zagreb together with the Forestry Institute in Jastrebarsko and forestry practice and Business Association of forest industry organizations develop scientific research projects, usually five-year projects, which include fundamental, applicable and development researches.

After the establishment of the Public Enterprise »Hrvatske šume« p.o. Zagreb in 1990 and its financing of scientific projects, good basis was made in the Croatian forestry for an undisturbed development of science, research and education activities.

The above historical data represented significant steps that, in a long period, contributed to the survival and benefit of the Croatian forests, forestry activities and science. The period of the past 50 years of financing the scientific projects resulted in a big gain for the forestry science and profession as well as for forests. During that period all the forests in Croatia became research and training centers and successful collaboration was achieved between scientists and forestry professionals, to the benefit of forests and their successful development. This is a long enough period so that the results of these activities can be clearly seen in all Croatian forests. Despite the climate and stand changes and dieback of certain tree species, our forests still have the opportunity to mitigate unfavorable impacts by their natural structure and indigenous species, with the help of the forestry science.

Silviculture and forest regeneration activities that have been consistently applied for two and a half centuries, all based on professional and scientific approach, and principles of natural management, proved to be fruitful: we have fully preserved our natural forests, which makes us today very special in Europe.

Such unique forests are the result of joined efforts of the forestry science and profession and we feel to have the right to celebrate with pride and satisfaction the International Year of Forests and the 50th anniversary of a fruitful scientific and professional collaboration between the Croatian forestry science and profession.

Slavko Matić