

tuje aj v našej republike, vzhľadom na dôsledky predimenzovanej industrializácie v minulých desaťročiach.

Monografia obsahuje veľa metodických podnetov a konkrétnych príkladov, aplikovateľných i v našich podmienkach aj v súčasnej situácii. Príspevky sú vhodne ilustrované (graficky, fotografiami a tabuľkami) a doplnené aj odkazmi na najdôležitejšie literárne pramene. Kniha môže byť praktickou pomôckou pre vysokoškolských pedagógov a vedeckých pracovníkov, zameraných na praktickú aplikáciu vedeckých výskumov orientovaných na ochranu krajiny a životného prostredia.

Eva Kalivodová

Sídlná zeleň

J. Supuka a kol.: **Ekologické princípy tvorby a ochrany zelene.**

VEDA, vydavateľstvo SAV, Bratislava 1991, 307 s., 47 tabuliek, 106 obrazov a 36 farebných fotografií.

Publikáciu *Ekologické princípy tvorby a ochrany zelene* spracoval autorský kolektív zložený prevažne z vedeckých pracovníkov Ústavu dendrobiológie SAV - Arborétum Mlyňany pod vedením doc. Ing. J. Supuku, CSc. Nadväzuje na publikácie Supuka, J. - Vreštiak, P.: *Základy tvorby parkových lesov*, Supuka, J.: *Normatívy zelene a oceňovanie stromov v sídliskách*, Hrubík, P. - Juhásová, G.: *Choroby a škodcovia cudzokrajných drevín na Slovensku* a Hrubík, P.: *Živočíšni škodcovia mestskej zelene*, pričom zhrňuje najnovšie poznatky z tejto problematiky za posledných desať rokov.

Dielo je rozdelené do deviatich častí, bohato dokumentovaných obrázkami, grafmi a tabuľkami. Každý tematický celok dopĺňa rozsiahla literatúra.

Demografický vývoj vo svete aj u nás smeruje k neustálemu zvyšovaniu hustoty obyvateľstva v sídlach nad 5 tisíc obyvateľov. Ochrana poľnohospodárskeho pôdneho fondu a iné obmedzujúce činitele nedovoľujú okolo miest vytvoriť „zelený prstenec“, preto sa musí venovať zvýšená pozornosť ochrane existujúcej zelene, ale hlavne jej tvorbe v sídlach.

Treba súhlasiť s autormi, že pozitívne vplyvy prírodného a vidieckeho prostredia smerom k mestskému prostrediu sú tým menšie, čím väčšia je rozloha sídla a vyšší stupeň ľudskej aktivity v ňom. V intenciách tejto základnej myšlienky sa tu analyzujú:

- urbanisticko-priestorové a sociologické aspekty
- najdôležitejšie zložky úrbánneho prostredia (pôda a klíma) vo vzťahu k vegetácii
- vhodnosť použitia drevín vzhľadom na rozsah devastáčnych vplyvov v sídlach
- funkčná účinnosť zelene
- škodlivé činitele zelene.

Urbanisticko-priestorové a sociálne aspekty zohrávajú významnú úlohu, pričom treba mať na zreteli vertikálnu urbanizáciu, hustotu obyvateľstva, zmenu štruktúry plôch a zastúpenie urbanizačných prvkov oproti prírodným. Každý konceptnej tvorbe zelene by mal predchádzať demografický rozbor a sociologický prieskum, z ktorých by vyplynuli kritériá pre normotvorbu. Na tieto informácie, na historický vývoj sídla a jeho štruktúru nadväzuje plošno-priestorová makro-, mezo a mikroštruktúra zelene.

Limitujúcimi faktormi pre existenciu vegetácie v sídlach sú stav pôdy a ovzdušia. Preto sa v práci venuje pozornosť aj ekologickým kritériám pre tvorbu zelene, degradačným faktorom a asanácii úrbánnych pôd. Keďže klímu sídiel charakterizuje i imisné zaťaženie, uvádzajú sa cesty k jej melioračnej úprave.

Pri stanovení kritérií tvorby sídlny zelene je nevyhnutné poznanie narušenia dynamiky a procesov fotosyntézy a metabolizmu.

Väčšina pozitívnych vplyvov zelene závisí od biomasy drevín, konkrétne od veľkosti listovej plochy. Údaje dopĺňa poradie drevín s vysokou, strednou a nízkou tvorbou listovej biomasy.

Funkčná účinnosť zelene v sídlach vyjadruje „mieru skvalitnenia sledovaného javu, eliminácie stresového faktora, zlepšenie prvkov životného prostredia“. Táto definícia je nadväzujúca obsahu kapitoly, v ktorej sú údaje o hygienicko-očisťujúcej funkcii (absorbcia a kumulácia sýry, chlór a fluór) a o hlukoizolačnej funkcii zelene. Celú problematiku tvorby zelene v sídlach uzatvára kapitola, ktorá obsahuje dôležité údaje o škodlivých činiteľoch nebezpečných z hľadiska zachovania jej kvality a funkčnej účinnosti.

Osobitnú pozornosť si zasluhuje kapitola „Vegetačná štruktúra sídlny zelene a možnosti využitia potenciálnej prirodzenej vegetácie“. „Podľa princípov potenciálnej prirodzenej vegetácie“ hovoria autori, „možno bezpečne voliť druhovú skladbu autochtónnych drevín a navrhovať ekologicky stabilnejšie, ekonomicky menej náročné a k prirodzenej flóre sa približujúce spektrum sadovnícky riešeného diela. Prirodzené zloženie drevín umožňuje lepšie prepojenie urbanizovaného priestoru, priemyselných útvarov a sídlny zelene s okolitou krajinou“.

Týmto edičným činom pribudla hodnotná vedecko-odborná publikácia, v ktorej autori komplexne spracovali zložitú problematiku tvorby zelene v urbanizovanej krajine. Ich cieľom bolo zahrnúť výsledky dosiahnuté pri riešení aktuálnych otázok sídlny zelene, ktoré by slúžili sadovníkom, krajinárom, urbanistom, ochrancom prírody, plánovačom a projektantom vo vedeckovýskumnej práci, ale aj učiteľom a žiakom stredných i vysokých škôl.

Dagmar Slávková

J. Mikoláš: **State programme of environmental protection in its second year**

The Federal Government approved in April 1991 the State Programme of Environmental Protection that should realize the goals of the state ecological policy. The Programme formulates programmes and projects that will be supported by the state, creates conditions for effective environmental protection and optimizes the use of financial resources from federal and republic budget as well as financial means received from abroad.

The State Programme is divided into 7 main programmes, further into subprogrammes and projects with clearly defined goals and given time schedules. There are about four hundred concrete problems and projects placed into the State Programme.

Experience gained in the year 1991 and the priorities and criteria for project proposals and solutions in the year 1992 are given in the article.

L. Miklós: **Project on solution of the problems of environment.**

The solution of scientific-technical projects in the Slovak Committee for Environment follows from the Principles of ecological policy of SR and from the Programme of care of environment in SR. The projects of environment are in the years 1991 and 1992 financed from the budget of SR and also from the Federal Committee for the Environment and they were chosen by systems approach and collective evaluation of experts. The author gives evaluation of 6 groups of projects (from 400 ones) proposed for solution. This process is aimed at the solution of technical projects and not at operative solution of technological and other problems. The main goal of it is to get the most special bases and knowledge for operative solutions of the problems in the future.

Objective requirements for solution of the issues of the environment in CSFR, as well as required means for proposed projects exceeds existing finances. The choice of the projects is therefore very difficult.

R. Mídrák: **Science and research at the Faculty of Ecology of the Technical University in Zvolen**

In 1991 was established the independent Faculty of ecology by the Technical University in Zvolen. It is aimed at research and education in the field of general ecology, landscape ecology and natural environment. That leads into protection and formation of nature and landscape. Emphasis is put on the study of damaging of particular components of the human environment and on the possibilities of their improvement. Education and research programme of the Faculty will be equivalent, polythematic with a balanced share of disciplines of natural science, technical-technological sphere and sociology. The programme of the Faculty enables its connection to the programme of Ecological academy, that is a basic scientific-education programme of the Slovak Committee for the Environment. The faculty is formed by six chairs, the author presents their scientific-re-

search programmes and some actual research problems.

L. Seko: On the development of scientific-research activity of the Environmental section at the Faculty of natural sciences of the Comenius University

At the Faculty of natural sciences of the Comenius University in Bratislava exist from its foundation in 1940 research programmes of different branches of natural sciences: biology, geography, geology and from the fifties also chemistry orientated also on solution of the problem of the human environment.

At present at the Faculty of natural sciences the Environmental section leads and develops an integrated environmental research. From the viewpoint of long-term aims the investigation is orientated on solution of the problems of dynamics, stability, autoregulation mechanism of landscape systems of the environment, on evaluation of the quality of human environment, on formation of environmental information system.

Short-term aims of the research are in harmony with the longterm strategy of the Environmental section. At present there are being solved 7 scientific-research projects.

M. Ružička, H. Ružičková: Protection and development of genepool and its biotopes

One of the basic preconditions of permanent development is to preserve the genetic abundance of living organisms and conditions for their existence - biotopes. Protection of genepool and its biotopes is the primary problem of numerous international programmes in which takes part also CSFR (e.g. Corine-Biotopes). Under the guidance of the Slovak Committee for the Environment and the Federal Committee for the Environment was prepared in Slovakia the national project „Genepool - a system of ecologically stable biotopes,“ with the aim to recognize the present state of biological landscape components by the help of an information system containing actual, permanently completed information of valuable biotopes of Slovakia, their structure, quality, importance and threatening. Their inventory and mapping should be done in the first stage - especially in that part of the landscape where negative activity of man is the most intensive - except of forest complexes of subalpine and alpine zone. Three types of mapping are required: prevention, summary and special (thematic). The maps of biotopes with a text will be a base for ecologically orientated planning, for management and an important means for nature protection.

M. Hranalová: Refunding of environmental expenses

The acts, passed in CSFR in order to improve the state of the environment, will stimulate producers to more rational approach to the nature and also to a more significant share of polluters in the formation of ecological foundations. This fact will be ensured by introduction of the system of positive stimuli and multiple increase of payments by polluters of the environment. From the

ments by polluters of the environment. From the subjects of ecological economic policy (state, district organs, ecological foundations, enterprises, citizen) the citizen deserves the greatest attention, because he is who endures the influences of destroyed environment, the more energetic solution of ecological problems, e.g. increase of unemployment as a consequence of liquidation of enterprises inconvenient to the rules of human environment, increase of taxes, expenses on production in enterprises charged by higher payments for environmental pollution. It is proper to ask the citizen that what a state of environment and other components of standard of life is he ready to tolerate. For a correct decision he needs information of the influences resulting from the given state of human environment, but they are henceforward insufficient.

J. Drdoš, M. Kozová, A. Zubeková: Application of environmental carrying capacity in the EIA process

Elaboration of the issues of Environmental Impact Assessment (EIA) called attention to environmental carrying capacity being a component of this assessment in connection with the prepared Act of the Slovak National Council of EIA.

The term environmental carrying capacity of the territory means its reaction to external pressure of antropogenous activity. Environmental carrying capacity is not related only to natural environment, but also to urban and human environment. It is a feature resulting from the relation of man to environment.

Evaluation of environmental carrying capacity will be a part of the EIA process for particular activities and it will be applied also in the concept of territorial planning in CSFR.

D. Štefunková: Aspects of perception in formation of landscape verdure of aesthetic function

On the basis of the process of landscape perception three important objective factors have been evaluated: the position of the observer in the landscape, the distance of observer from the given scenery, relief character. The aim was to express the change of significance of perceived physiognomic-structural landscape features and on the basis of this knowledge to summarize certain general principles for formation of landscape verdure from the aspect of landscape perception.

The influence of the three selected factors is included in principles for the proposal of verdure from the aspect of landscape perception being divided into two groups: for a conspicuously dissected relief, for nonconspicuously dissected relief.

In proposals of landscape verdure is possible according to the above-mentioned principles to start from e.g. „the degree of sight importance“ of each points of the landscape on the basis of frequency observer's movement. The landscape may be divided into the so called zone of perception of micro-, meso- and macrostructure of verdure etc.

Z. Izakovičová, T. Hrnčiarová: Landscape-ecological limits - as a part of spatial development of branches

The basic aim of ecologization of landscape management is optimization of the area - formation of the most suitable conditions of territorial development on ecological principles. We get to optimization of the area by a complexly elaborated decision process in which we establish the limits of development of branches in the landscape. These are: position limits setting out from abiotic landscape features, ecostability limits setting out from biotic landscape features, hygienic and technical limits (antropogenous limits) setting out from socioeconomic activities in the landscape. Due to nonrespect of ecological limits ecological problems arise in the landscape: threatening of ecological landscape stability, natural resources, health of man and existence of human society.

M. Matrka, V. Rusek: Biodegradation of toxic xenobiotics and the environment

Biological decontamination characterized by the destruction of toxic chemical materials in the environment is of major importance. It is valid especially for industrial waste, but also in chemization of agriculture. Therefore it is necessary to apply the demand on information to the mood of decontamination of final chemical products, especially of those applied directly in the field, e.g. in agriculture. The primary requirement has to be the ability of their spontaneous, biological decontamination. At present it is required that the problem of liquidation of toxic waste should be integrated into the elaboration of production technology.

M. Fluka: The evaluation and creation of the human environment.

The environment in the towns is the synergetic unit, characterized by its variability, complexity, spatial character and high dynamics of its development.

The diagnostic of its condition must exceed a level of the qualitative and quantitative analysis of its elements.

For the coordination of the processes in the environment we must know the function of the subsystems and entities and their synergetic effect. Keywords in this issue are: dynamics of the system and its stability, self-regulation, self-organisation, proportionality, time- and spatial-succession, homeocyclic, backcoupling and intercommunication of the subsystems, active and restrictive operative interference, dynamical prognosis. This aspect must be a basis for the diagnosis of the condition of human living environment, for the analysis of the processes, a synthesis and proposal of the operative strategy by its protection and creation, and for choice of the applied methods.

V. Kartusek: Application of ecological aspects in construction of the dam Sereď

The aim of the study elaborated by the experts of the Institute of landscape ecology of SAS and AGROCONS Nitra was to evaluate the

influence of the dam Sereď on the landscape, and to make a proposal of a new, ecologically suitable variant of the construction. The proposal solution is resulting from ecological priorities and it minimizes the negative impact of the construction on the landscape. The aim of the proposed modification of the project is to preserve the biotopes of original ecosystems outside the dam as most as possible, as well as to preserve primary branches of the river Váh with its typical vegetation. The construction according to the original project totally damages minimum 70-80 % of the most valuable rain forests from ecological and cultural-social aspect and they would be substituted by less valuable technocoenoses.

A. Zubeková: Environmental Impact Assessment in Slovakia

In Slovakia the works on preparation of the Act of the Slovak National Council on Environmental Impact Assessment (EIA) culminated. For its application in SR the Slovak Commission for the Environment (SCE) elaborated a special strategy: to create institutional conditions in the frame of the SCE, i.e. to ensure the coordination of the EIA process in Slovakia from the aspect of the prepared act, registration of reports on EIA, connection with public and publication of an information bulletin. In further steps is necessary to ensure organization of education courses on EIA and elaboration of special manuals and

guidelines for application of the act. An important role is to connect the SCE with international cooperation.

M. Ružička: Formation and disposal of wastes

The process of waste disposal has to be connected with the whole process of production. Already in enterprises is necessary to take into account the species of wastes arising during production, distribution, utilization and after their use to search the ways of their disposal. The author mentions measures necessary to be realized in order to make easier the waste disposal during the process of its formation. These measures have to be completed by a system of separate waste collection, especially of those ones that are utilizable as second raw materials. An example of separate waste collection as raw materials for waste recycling is the firm EKOTRANSLATION in Banská Bystrica.

L. Komora: Grant agency for technics in Slovakia

At the end of January this year was constituted the Grant Agency for Technics by the Ministry of Education, Youth and Sport of SR. Its aim is to evaluate scientific-technological projects and to assert state policy in the sphere of science and technics with financial participation

in solution of projects - distribution of grants. The constitution of the commission should enable independent objective evaluation of projects by an independent agency, it will be a precondition for coordination of science and technics in Slovakia. At present, subvention of science and technics is unavoidable for investments dealing with science and technics. Effective legal regulations for support of science and technics have to be formed as soon as possible.

V. Mejstřík: Science and research in market economy

It is important to recognize that in Czechoslovakia in a situation of dramatic changes of the political and economic system, the failure to create a sound and effective fundamental and applied research system can hamper the bringing about of successful change, because a lack of proper activities of scientists. In all democratic systems the contents and pattern of research activities emerges from the competing claims of the needs, from the objectives of the Government.

It is necessary to introduce competitive elements in the research, specifically linked to accepted evaluation processes. Scientific work has its special attraction for creative individuals but they must be more flexible for accepting new „market conditions,, in the research.

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