

Twentieth International Conference on Environmental, Cultural, Economic & Social Sustainability
University of Aveiro, Aveiro, Portugal

Protection Of The Environment From The Negative Effects Of Socio Economic Systems

Jozef SURKOVSKY

2024

About

- Environmental protection and maintaining the dynamics of environmental systems thanks Socio Economic Systems,
- The role of a Man - behavior and needs, socio-economic aspects,
- Evaluation of socio-economic aspects, as an element having an impact on the environment,
- The model of the concentric zonal structure of the city by E.W. Burges and on the multi-core model of Harris and Ullman,
- The sustainability of properly functioning ecosystems with the help of tools - culture, economy and society.

Current Environmental Protection, Socio-Economic Systems And Aspects

- maintaining the dynamics of environmental systems,
- devastation as a result of the social and economic development of society,
- insufficient rationality and a lack of sensitive ecological behavior and actions of people,
- the alarming manifestations that signal a serious disturbance of the biological environment,
- The non-governmental organization Rome Club, which was founded in 1968.

The Club of Rome (1968)

Present global socio-economic systems and their aspects as sources of environmental threats...

- the global approach of examining the growing interdependence of states is not used
- the problems of society and ecology are partially solved, and not as a whole
- no scientific studies of a larger scale

Areas of Global Problems According To The Club of Rome

Global problems area	Operating socio-economic systems and aspects
Enviroment	energy problems, population explosion, poverty, backwardness of localities
Demography	employment, need for education and housing, availability of health care, food and water
Development programs	poverty, hunger, emigration, immigration, crime, drug proliferation
Value system	clash of civilizations, rejection of traditional values, cultures, ethical systems
Governance	Unemployment, environmental pollution, corruption, crime, terrorism
Work	automation, lack of jobs, other organization of people's lives
New technology	negative effects of new technologies on the organization of society and ecology, influence on political systems, value systems, people's behavior
Education	new priorities, the necessary implementation of permanent and lifelong education
The new global society	multiculturalism, multilingualism and setting in a global thinking society
World economy and financial order	Globalization of the economy, globalization of information, missing rules, loss of ethics, hierarchical access to global resources

Tab.:Identification of the socio-economic systems and aspects affecting individual areas of global problems affecting the environmental environment and biotopes (note the table created on the basis of information Vystoupil, 2006)

Socioeconomic Systems Affecting The Environment In Cities

- Structuredness of cities - zones with unique socio-economic characteristics and processes
- Concentrated energy and flowing material
- Socio-economic systems of cities and their aspects condition and determine the environment and its destiny
- Models of zonal structures of cities

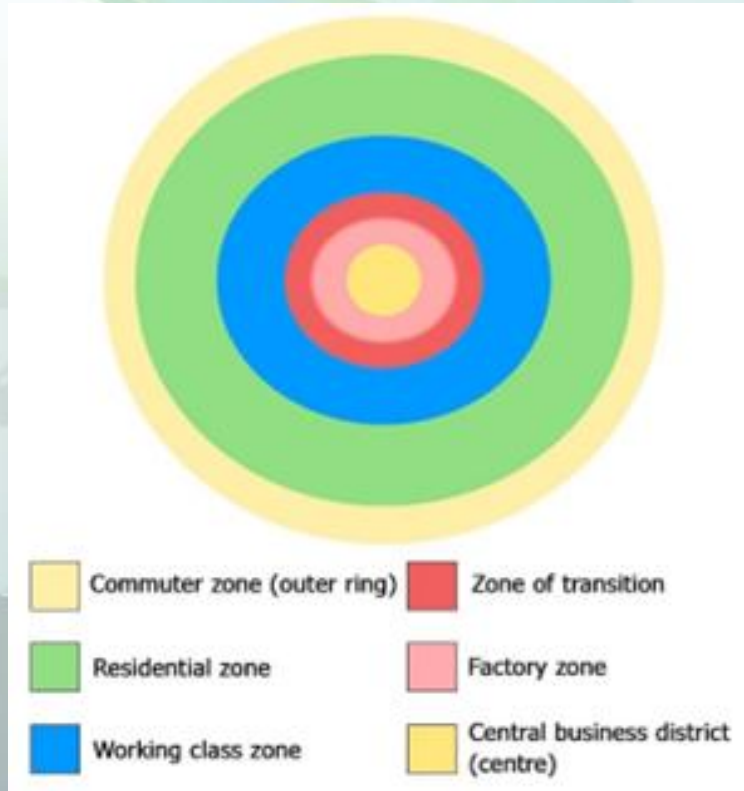
a) Concentric zonal structure of the city according to E.W. Burgess (1920)

b) Harris & Ullmanův a multi-core model of the zonal structure of the city

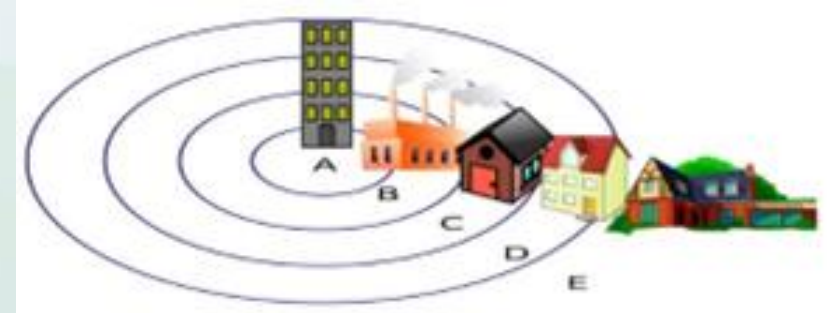


Concentric Zonal Structure of The City

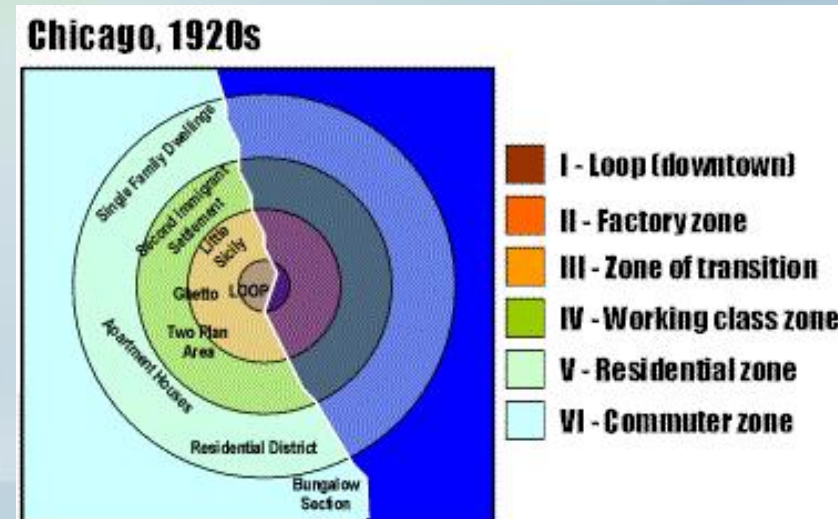
1



2



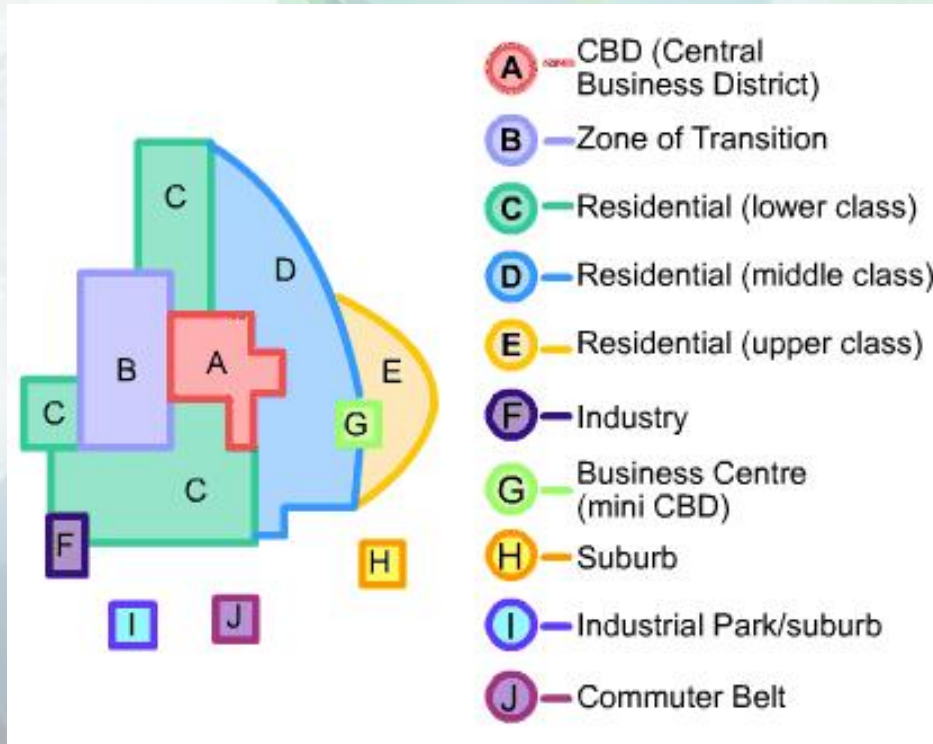
3



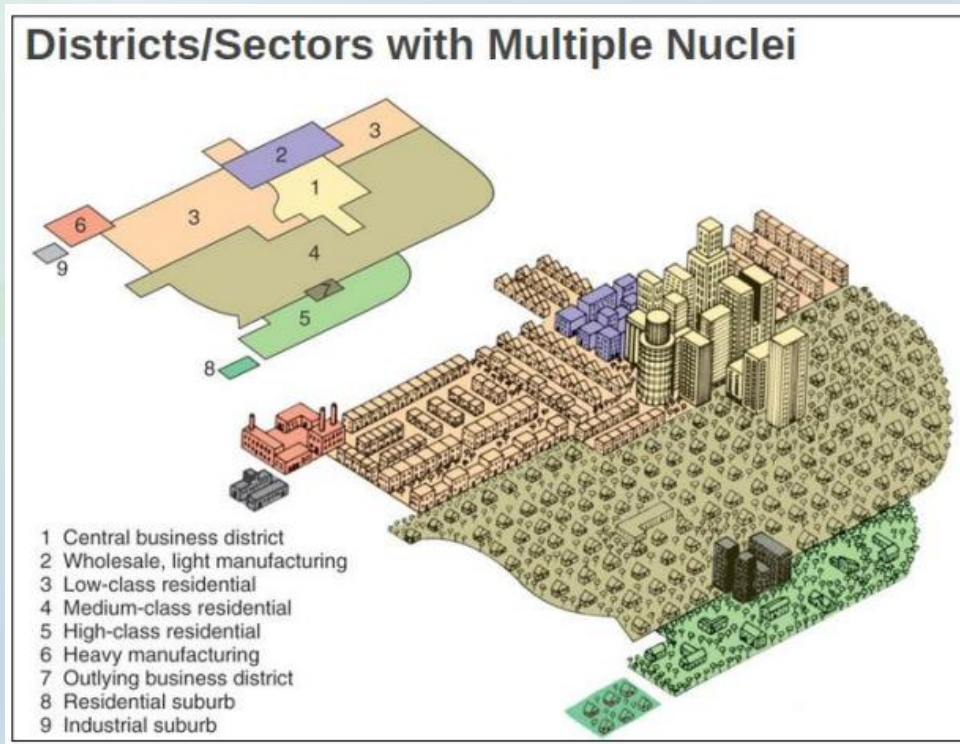
1, 2 - General concentric zonal structure of the city by E.W. Burgess (Reddit, 2023), **3** - Concentric zonal structure of the city of Chicago (right) by E.W. Burgess, 1920 (MUNI IS, 2023)

Harris & Ullman a Multi-Core Model of The Zonal Structure of The City

1



2

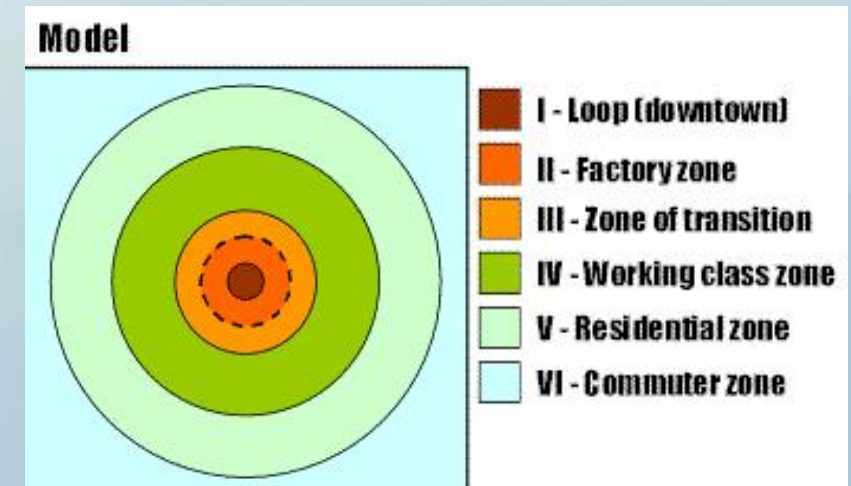


1 - Harris & Ullman's multi-core model of city zonal structure (S-COOL.CO.UK, 2023), 2 – Districts/Sectors with Multiple Nuclei (Kulísková, 2015)

Environmental Environment Determined by Socio-Economic Aspects And Zonal Structure of Cities

based on E.W. Burgess model of concentric zonal structure of the city

- The simplest variant of model city for environmental protection
- Global problems can be very easily identified thanks characteristic socio-economic systems energy problems, population explosion, or backwardness of localities
- The socio-economic systems are bringing and creating job opportunities for the essential need for sustenance, social application and realization of the individual = = burden on the environment
- e.g. from the center to the outskirts of the city, there is a decrease in the average age of the population in individual zones, and an increase in the average number of children in households, slums



Model of concentric zonal structure of the city

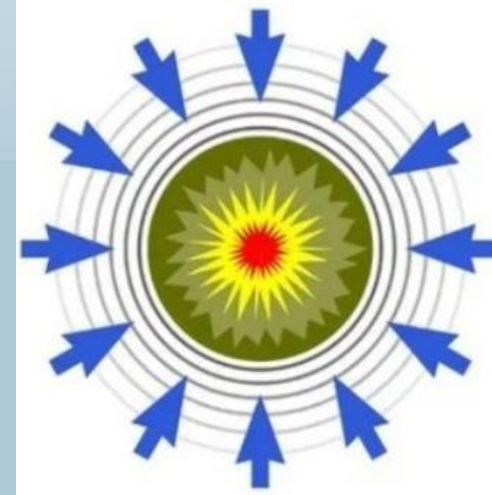
Environmental Environment Determined by Socio-Economic Aspects And Zonal Structure of Cities

based on E.W. Burgess model of concentric zonal structure of the city

The implosion of a global problem:

- Action of the failing socio-economic system on the outskirts of the city - poverty, lack of basic resources, increasingly deteriorating environmental conditions for life
- Complete failure of socio-economic systems - domino effect
- Immediate revitalization of the environmental environment
- Example: towns with adjacent closed mine shafts in peripheral areas

Solution: *Creation of relaxation centers with greenery and water areas.*



General scheme of implosion (SNS College of Technology)

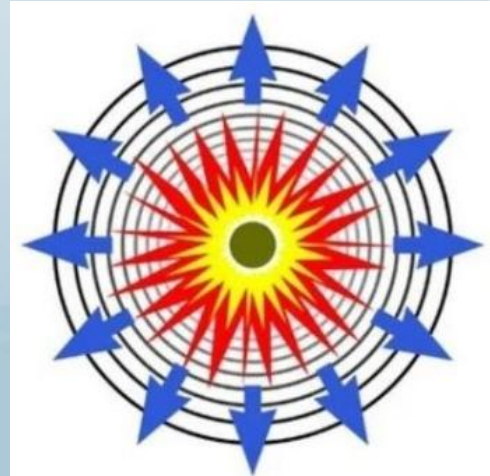
Environmental Environment Determined by Socio-Economic Aspects And Zonal Structure of Cities

based on E.W. Burgess model of concentric zonal structure of the city

The explosion of a global problem:

- The crumbling socio-economic system of the congested city center
- Increasing crime
- The spreading of negative processes to other, peripheral locations of the cities
- Example can be Detroit, USA at one time.

Solution: *Immediate change in spatial planning, reconstruction or a change from the concentric zonal structure of the city to multi-core zonal structure.*



General scheme of explosion (SNS College of Technology)

Environmental Environment Determined by Socio-Economic Aspects And Zonal Structure of Cities

based on Harris & Ullman's multi-core model of the zonal structure of the city

Solving of problem:

- Environmental protection much more complex
- The inconsistent disposition of individual zones presents great multiple risks
- Risks of environmental threats are not cumulative in the first stages and can appear at the same time, in different intensity, in different places
- The reason is primarily the larger number of different ethnic groups, closed communities, localities, neighborhoods
- Isolated cores may be also by specific industry, trade, services, sports or recreational activities.

Environmental Protection Based On The Reflection of Socio-Economic Systems And Their Aspects

- The functional values of society like effective protection of the environmental environment
- Change the overall perception of society's societal, social and economic priorities
- Right motivation in the form of various benefits concerning all
- Sustainable system with re-cooperative properties
- The focus on socio-economic specifics at the borders of individual zones, priority is to prevent the spread of environmental hazards to other adjacent zones
- The strict zonal delimitation of the given problem



Environmental Protection Based On The Reflection of Socio-Economic Systems And Their Aspects

- By creating closed zonal systems of cities, it is thus possible to a certain extent to prevent global and environment problems
- The protection of these marginal zones, which are no longer completely part of the urban zonal structure (the tendency to push individual loads acting on the system and the environment to the edges of the zones - megalomaniac development projects)

The Conclusion

Knowledge of the processes of the socio-economic system in the individual zonal structures of the city enables effective prediction and a much faster and more effective response to emerging threats to the environment.

With the help of setting socio-economic benefits for people participating in environmental development support programs, it is possible to manage effectively within the environmental environment.



Thanks For Your Attention

E-mail: hello@surkovsky.eu

Web: <https://www.surkovsky.eu>

Phone: +420 603 341 493 (CZ)