Solution to problems in field of environment protection

Foreword

- **The potential of society development is** the further the more **determined by the level of environment protection** the level of the usage of reusable and non-reusable resources, but also by the **environmental limits of pollution**, which have to be kept under the limits of its **absorption capacity** and by the effort for **preservation of biodiversity of categories, species and ecosystems**.

Sustainable development

- Balanced and consistent **development can be reached** only **by absolute integration of social, economical and environmental intents and objectives** and by the implementation of the sustainable development strategy. As a result, the **sustainable development and sustainable growth should lead to the intergeneration and intra-generation justice**

Surface water

- Surface water represents important part of human's environment with multiple usage:
- as sources of drinking water
- usage in industrial production
- for agricultural usage
- for recreation sport purposes
- for fishing
- there is also country-creating role

Surface water

- Surface water represents one of the most endangered parts of the environment, because all human activity was for ages concentrated around river banks of all kinds.
- Undetected outlet of wastes to surface water was (and often still is) one of the simplest ways for waste disposal.
- The pollution is caused by agricultural activity, industrial disposal sites, urbane agglomeration or other anthropogenic activities.

Picture 1: Surface water quality in the main tributaries of the Tisza River

Triedy kvality povrchových vôd
Classes of surface water quality

I. veľmi čistá
very clean

II. čistá
clean

III. znečistená
polluted

IV. silne znečistená
highly polluted

V. veľmi silne znečistená
extremely polluted

Pollution characteristics

- The important sources of pollution in the area:

- Pollution from agriculture
  - vegetable production
  - animal production
  - other sources
    /for example handling with oils substances/
- Urban pollution
- Other pollution

Picture 2 Public sewerage systems in districts of Slovak republic – % of inhabitants connected onto sewerage system and wastewater treatment plant

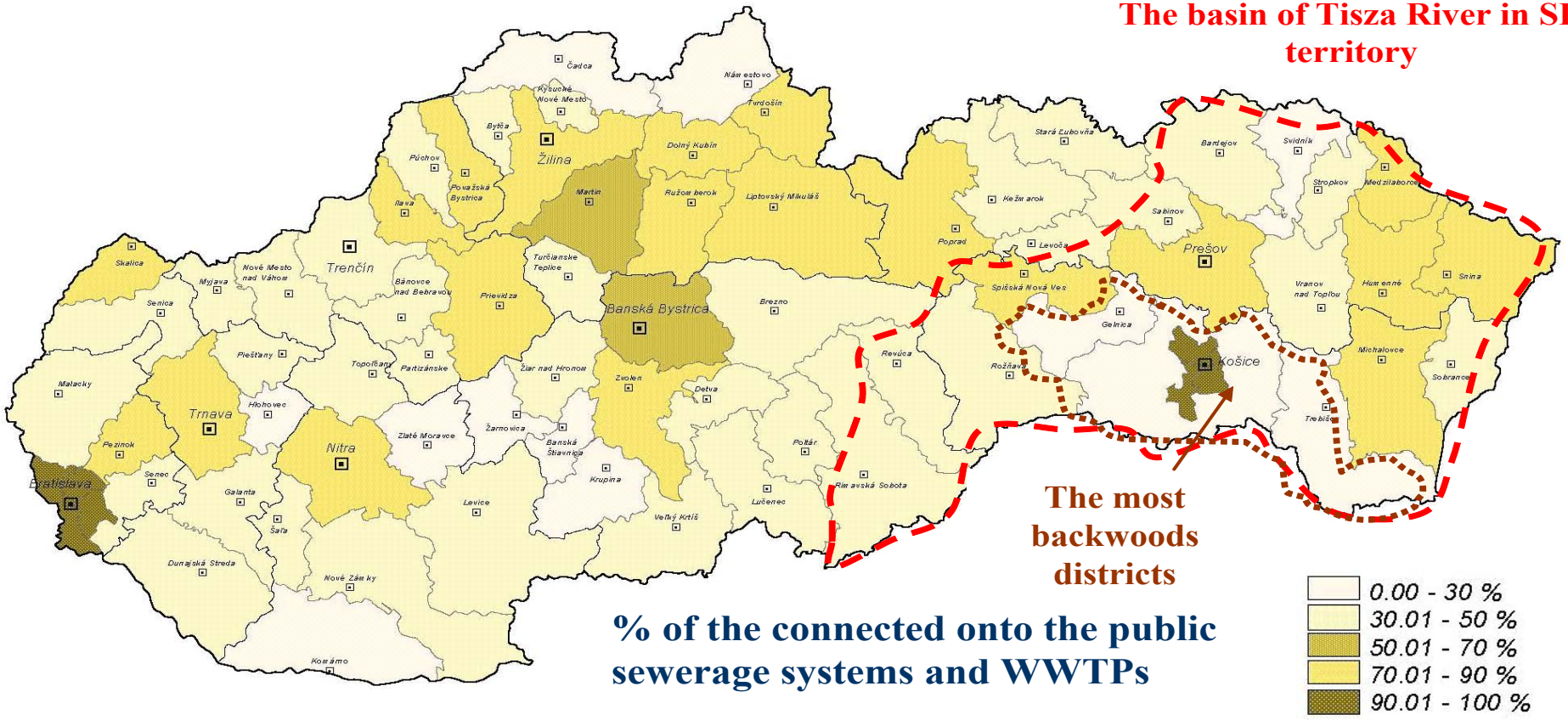
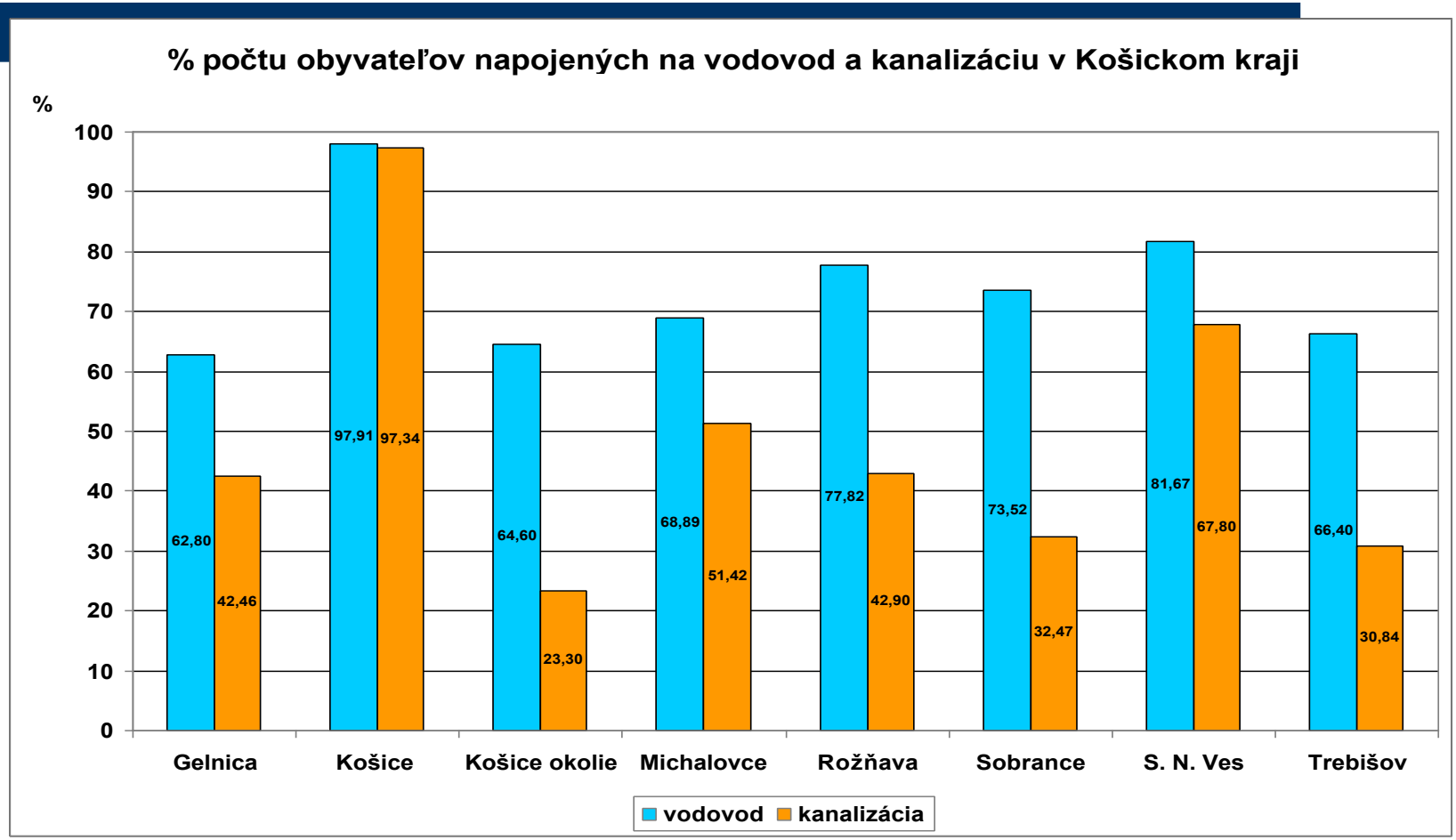


Chart 1 Review of sewerage systems rate in districts of Kosice region in %

Name of district	Total amount of municipalities with PSS	Number of municipalities with PPS and WWTP	Number of WWTP	Number of inhabitants connected onto PPS	% of municipalities with PPS	% of district inhabitants connected onto PPS	Total amount of municipalities in districts	Total amount of inhabitants in districts
Kosice	1	3	3	23 3530	95	**97,34**	22	239 905
Kosice-surroundings	30	21	21	25 918	26,3	**23,3**	114	110 997
S.N.Ves	13	12	12	64 822	36	**67,8**	36	95 531
Gelnica	11	5	5	13 190	55	**42,46**	20	31 064
Roznava	12	7	7	26 621	19,35	**42,9**	62	62 038
Trebisov	15	10	10	32 276	18,29	**30,84**	82	104 633
Michalovce	14	8	8	56183	17,94	**51,42**	78	109 247
Sobrance	6	2	2	7 582	12,7	**32,47**	47	23 348
Total	102	68	68	460 122	26,46	**59,23**	461	776 763

Graph 1
% of inhabitants connected onto water supply systems and sewerage systems in the Kosice region - comparison



Projection of integrated approach in protection and usage of water sources within sustainable development **to the field of collection and municipal wastewater treatment means to ensure lowering of differences between** amount and quality of **water consumed and** amount and quality of **water let out back to the environment** after treatment process.

Conclusion

There are in the northern area of the Tisza River basin, which is situated in eastern part of Slovak republic, the most backwoods districts in field of environmental protection, especially in sewerage systems and wastewater treatment.

The construction of the sewerage systems and connection of the wastewater producers to them will result into the improvement of the environment and it will eliminate the negative biological and bacteriological impact of insufficient sewage accumulation or of insufficient disposal.

Thank you for your attention