Documentation of the results in the BHP "Integration of ecological concerns into territorial planning of Ukraine at the level of United Territorial Communities (UTC)".

Preliminary note: The following text is in large parts a translation of the original Russian text of the Ukrainian project partners. For better comprehensibility, modifications were made in individual places by Anja May and Stefan Heiland.

The decentralization reform of the state administration initiated in 2014 as a result of the signing of the Association Agreement between the European Union (EU) and Ukraine, as well as the implementation of selected EU directives in the field of environmental protection, which is also linked to this, confirm the urgently needed greening of the Ukrainian planning system both in Ukraine as a whole and at the level of the United Territorial Communities (UTC). In the meantime, several nature protection-related contents have been anchored in Ukrainian legislation, without sufficiently concretizing them in sub-legislation.

For the regional administrative level (oblast), the previous consulting assistance project developed appropriate planning methods and tested them in the Cherkassy oblast model area. In this subsequent consulting assistance project, the methods were transferred to the new administrative and planning level, adapted to it and tested in the model area UTC Stepancy.

In the following, the most important project results are briefly presented.

(1) Territorial planning

As a new spatial-administrative administrative unit, the United Territorial Community (UTC) was created in the course of the administrative reform - a merger of several municipalities within a rayon (comparable to German counties), which thus reduces the number of previous administrative units in Ukraine. This is intended to enable more efficient administration and to promote economic development in the mostly sparsely populated municipalities. The merger is voluntary and is taking place at different rates. The administrative reform shifts responsibility for many administrative tasks to the UTC level, including those for municipal spatial planning and development. This decentralization reform has exacerbated planning problems at the local level. Several factors are involved: the requirement to prepare a significant number of new planning documents within a given period of time, the lack of the appropriate local human and technical resources as well as the necessary local data, methodological deficiencies in the preparation of environmental assessment for planning purposes, and the need for an overall spatial assessment - i.e., of all the municipality's resources - to increase the municipality's competitiveness in a globalized environment. This also involves the implementation of new issues such as the local implementation of the global sustainability goals (Agenda 2030).

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One of the primary goals of the German-Ukrainian consulting assistance project was to develop and test appropriate methods for taking environmental requirements into account in the territorial plans of the newly created United Territorial Municipalities.
The preparation of spatial plans for the United Territorial Municipalities is regulated by law through the two State Construction Standards "Structure and Content of Spatial Plans at the State and Regional Levels" (DBN [1]B.1.1-13 2012) and "Structure and Content of Spatial Plans under the Jurisdiction of Village, Settlement and City Councils“ (DBN B.1.1-2017).

According to the Law "On Regulation of Urban Development Activity", the regional territorial plan for the oblast level, consisting of a report and a variety of maps, is developed from the general scheme of spatial development for the territory of Ukraine and makes basic decisions on development, planning, construction and use of a part of the administrative territory. It takes into account state interests, historical, economic, ecological, health, geographical (including landscape and recreation) and demographic peculiarities of the planning area, as well as ethnic and cultural traditions.

The consideration of landscape planning issues in the territorial plan is therefore a direct effect of the German-Ukrainian consulting assistance project. Thus, planning decisions were made in the territorial plan of the UTC Stepancy, which significantly strengthen the importance of landscape planning. In particular, areas with high ecological, recreational, health-promoting, scientific, aesthetic, historical and cultural value were identified and territorial planning measures for their protection or use were developed.

In accordance with the State Construction Standards, a main plan and several sub-plans or thematic maps were prepared for the territorial plan of the UTC Stepancy, namely:

1. Main plan
2. Location in the settlement system
3. Inventory (current land use)
4. Existing restrictions
5. Future planning restrictions
6. Protection of critical infrastructures against natural and anthropogenic damage events
7. Traffic
8. Technical infrastructure

The following maps were developed for the first time:

9. Development model
10. Landscape plan
11. Social infrastructure (primary health care and educational facilities).

With this procedure, new methodological and planning territory for the Ukraine has been entered. It requires the elaboration of a landscape plan, the statements of which are used as normative standards in the strategic environmental assessment (SEA) and should be considered as nature conservation goals and measures in the territorial plan. Although the Territorial Plan UTC Stepancy was prepared as a sub-area of Kaniv rayon (according to DBN B.1.1-13:2012), the working steps differ

[1] DBN - "deržavvni budivel'ni normy" (Ukrainian). (Translator's note: State building standards).

significantly from the previous usual approach, as they also respond to the needs and peculiarities of the united territorial municipality itself (according to DBN B.1.1-2017).

The maps of the Landscape Plan have been attached to the Territorial Plan of UTC Stepancy. The individual assessments and target statements of the Landscape Plan were mainly reflected in the planning restrictions and in the main plan of the Territorial Plan. For example, the statements on the sensitivity of groundwater to pollutants were used to justify the location of planned sub-areas of a poultry farm, those on landscape for the designation of recreation zones, and those on the fertility and erosion susceptibility of soils for the assessment of the intensity of existing and planned agricultural use. Furthermore, the assessments of the landscape plan were incorporated into the map for the protection of critical infrastructures against natural and anthropogenic damage events.

Based on the results of the environmental assessment, the requirements for residential land use have been modified and the compensation measures for transportation infrastructure projects revised.

During the project, proposals for the improvement of the conceptual apparatus and definitions, as well as for the preparation of territorial plans with integrated landscape plan, were introduced into the Draft Law No. 2280, which was adopted by the Ukrainian Parliament on 12.12.2019. Thus, in the future, territorial plans should consider the various environmental media more than before, and in particular, the recommendations of the landscape plan and the results of the environmental report, thus ensuring sustainable urban development.

The Territorial Plan of the United Territorial Municipality of Stepancy is available in Ukrainian and consists of a main plan (map) and ten sub-plans (maps) and an explanatory report in three volumes: Volume 1 - Territorial Plan (46 p.), Volume 2 - Landscape Plan (43 p.), and Volume 3 - Environmental Report (76 p.). The appendix on the following pages contains the main plan and the table of contents of the explanatory report.

(2) Landscape planning

The project also envisaged the further development of landscape planning methods in relation to the integration of its contents into the territorial plan at the local level, which was to be practically tested using the example of UTC Stepancy. The latter included the preparation of a landscape plan for the UTC Stepancy, which included recommendations for the corresponding territorial plan.

In this context, the landscape planning contents, which were developed in the previous project for the regional level (oblast), were taken into account to a large extent - considering the requirements and specifics of planning at the local level. In particular, the State Building Norms (DBN) adopted in 2018 for plans at the level of United Territorial Communities, in which the term "landscape planning" was newly introduced, should be mentioned here. However, landscape planning is interpreted very narrowly as recreation planning here. Overall, it became clear that DBNs need improvement in two directions. First, the issues of the territorial plan should be aligned with those of the landscape plan and the strategic environmental assessment, thereby strengthening them. Secondly, it is important to develop a mechanism for dovetailing the planning strands of the territorial plan and the landscape plan.

The landscape plan provides the basis for accomplishing the following tasks of the local territorial plan:

- Justification of future usage requirements and definition of priority uses, also in terms of sustainable urban development
- Identifying areas of special ecological, recreational, health, scientific, aesthetic, or cultural-historical value and establish legally regulated restrictions on their planning, development, and other uses

- Development of urban planning measures for more environmental protection, resource conservation, protection of ground monuments as well as population protection against natural and anthropogenic hazards

In the early stages of planning, the landscape plan provides geospatial data on the baseline condition of the planning area as well as a planning-oriented environmental assessment. In the final stages of the planning process, it is the source of information for the main plan and the definition of future planning constraints in the territorial plan.

The methodical procedure for the integration of landscape planning into territorial planning developed in the previous consulting assistance project for the oblast level was concretized and differentiated accordingly within the framework of the present project for the subsequent planning level (cf. Fig. 1).

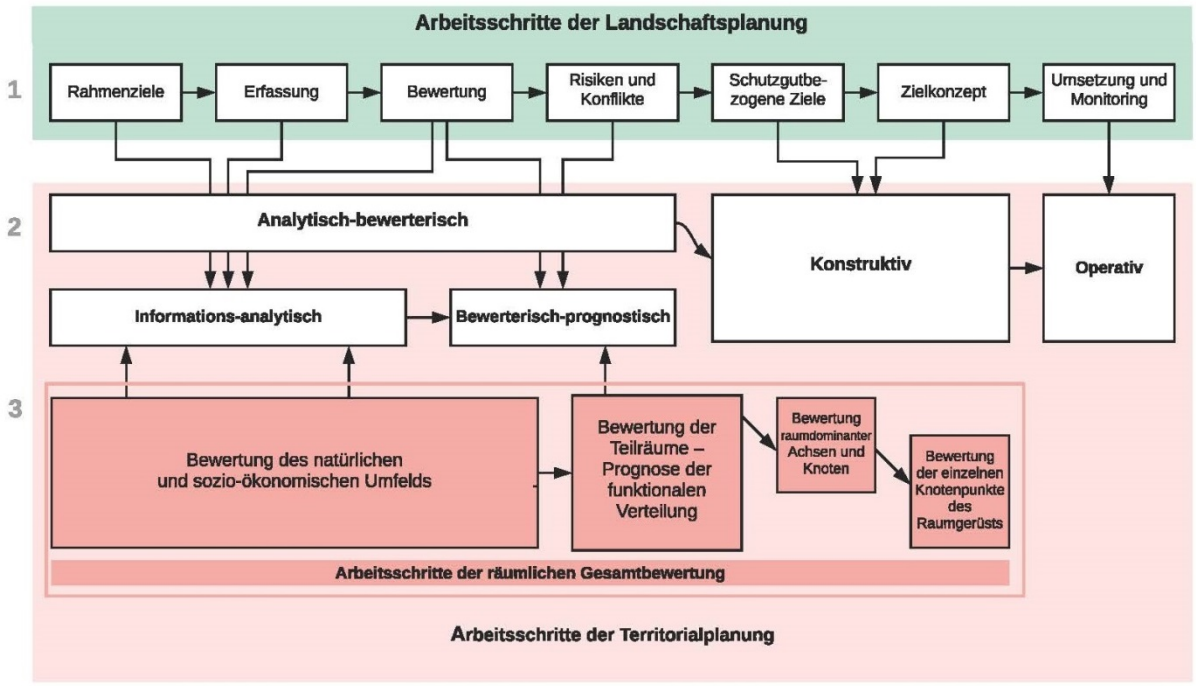

Fig. 1: Mutual assignment of landscape and territorial planning work steps. 1 - Work steps of landscape planning; 2 - Work steps of territorial planning; 3 - Work steps of the overall spatial assessment.

Fig. 1 summarizes the contributions of landscape planning to territorial planning in the different work steps. In particular, the landscape plan provides:

- Comprehensive data and assessment bases on the natural conditions and the state of the protected assets, their sensitivity to and vulnerability to stresses due to land use
- Knowledge on the spatial distribution of valuable areas as well as risks of landscape degradation due to land uses or special natural conditions.
- Objectives related to protected goods as well as an integrated nature conservation target concept and thus argumentation bases for the determination of priority or reserved areas for nature and landscape in the territorial plan.

The **analytical-assessment work step of** territorial planning is composed of the **information-analytical sub-step** (collection and analysis of data) and the assessment-prognostic sub-step (identification of the main problems and determination of possibilities to improve the environmental situation). The landscape plan is a comprehensive information and evaluation basis for this. It provides data on the natural conditions and an assessment of the state of the protected assets, including their sensitivity to stresses caused by use (e.g. sensitivity of soils to pollutant input) or their vulnerability to e.g. floods, inundation and erosion. This provides the planners of the territorial plan with a decision-making basis for weighing up the different utilization claims with regard to a balanced ecologically-oriented development of the planning area.

For the **evaluative-prognostic substep,** the landscape plan provides data on the spatial distribution of existing and potential risks of landscape degradation due to management or special natural conditions.

The **constructive step of** territorial planning includes the definition of the goal of planning, the elaboration and evaluation of planning alternatives, and the selection of an "optimal" alternative (compromise solution). The aim here is to achieve a balance between planning (development), nature conservation and cultural heritage. In this step, the planning area is divided functionally (map of functional zones), i.e., categories of land with similar characteristic features are delineated, to which possible types of land use are assigned: Residential, agriculture, industry, recreation, nature conservation and others. The landscape plan contributes the objectives related to the protected goods as well as the integrated nature conservation objective concept. It provides the argumentation basis for the definition of priority or reserved areas for nature and landscape in the territorial plan as well as for the deviation of planning decisions from the functional zoning. Due to the required consideration of ecological issues, i.e. integration of the landscape plan, the main plan can be drafted in the constructive work step. This meets the requirements of Ukrainian legislation for ensuring ecological safety and balanced (sustainable) use and development of the municipal territory.

In the **operational step of** territorial planning, the plans are prepared for implementation. There is an official examination of the territorial plan, the financing and realization of the plan as well as the implementation of a monitoring.

Box 1: The box explains the work steps from Fig. 1 in more detail according to the Ukrainian terminology.

Within the scope of the State Building Standards (DBN), both the results of the protected property assessment and the risk and conflict analysis can be integrated 1:1 into the territorial plan or serve as a basis for the preparation of the following subplans (maps) of the territorial plan:

- Exposure to natural or anthropogenic hazards
- Technical development of the area and protection of critical infrastructures from natural and anthropogenic damaging events.
- Existing restrictions and future planning constraints, particularly areas of the Protected Areas Fund.
- Spatial implementation of the development strategy of the municipal territory: Presentation of areas and objects to be realized according to the strategic and operational goals of the development strategy, especially from the areas of industry, agro-industrial agriculture, recreation and tourism (if this area has been additionally worked on).

Based on the results of the project, it was possible to develop detailed proposals for the improvement of construction and planning legislation, in particular the Territorial Planning Law and the State Construction Standards. In June 2020, the Omnibus Amendment Law on Land Use Planning (No. 711-IX) was passed, in which the term "landscape planning" is now enshrined. It goes into effect in June 2021. The law leads to consequential amendments in other laws. In the Territorial Planning Law, the term "spatial comprehensive plan" is introduced, which includes a landscape plan as a subplan. At present, the issue is the formulation of the sub-legislative regulations. For this purpose, the Ministry of Development of Municipalities and Territories of Ukraine involves various experts, including the three Ukrainian institutes involved in the project.

For the model community Stepancy, ArcGIS was used to develop assessment maps related to protected assets (water, soil, species & biotopes, landscapes), a map of conflicts and hazards, and an integrated concept of objectives and measures with a total of 17 objectives and 18 measures.

In addition, the landscape plan contains proposals for the representation of future land use in the territorial plan of UTC Stepancy (map and explanatory text). The terminology of landscape planning was “translated” into that of territorial planning. The map contains priority and reserved areas for nature and landscape as well as various land uses, and areas for measures aiming at the protection, maintenance and development of nature and landscape. For example, the protection of floodplains and wetlands are presented in the territorial plan as "part of the ecological network" in the area category "nature conservation", the restoration and development of near-natural biotopes in agricultural landscapes as "area of the forest fund (forests or meadows)" in coupling with the area categories "agriculture" or "recreation".

The landscape plan of UTC Stepancy is available in Ukrainian language. It consists of 21 maps and an explanatory section of 43 pages.

(3) Environmental assessment of territorial plans

Strategic Environmental Assessment (SEA) of plans and programs is one of the requirements of the Association Agreement between the European Union and Ukraine, signed in 2014 but fully entered into force only on 01 September 2017, to be implemented in national law (see Ch. 6 Environment Art. 363 Harmonization of Environmental Legislation).

After several related national bills were rejected in 2015-2016, the Strategic Environmental Assessment Law of March 20, 2018 (No. 2354-VIII) entered into force at the start of the project in late 2018.

In 2019, the Ministry of Ecology and Natural Resources of Ukraine (now the Ministry of Energy and Environmental Protection) developed methodological recommendations for conducting Strategic Environmental Assessments, but their application in practice revealed numerous gaps. The recommendations are general and do not consider the specifics of territorial plans, the different levels of detail of information and data at different planning levels, or the methodological approaches to assessing the impacts of plans on different subjects of protection (Soil, Water, Biodiversity etc.).

The Ukrainian project partners took a multi-pronged approach: They analyzed German methodological and practical examples, which were compiled and translated for them by Technische Universität Berlin. They transferred suitable methodological approaches to the legal framework and the planning system in Ukraine. In parallel, they prepared the environmental report on the territorial plan of the United Territorial Community (UTC) of Stepancy. An important basis for this were the results and experiences of the previous project, especially with the environmental report on the territorial plan of Cherkassy oblast.

The contents and structure of the environmental report at the level of the UTCs are based on the requirements of Ukrainian legislation and thus cover the entire range of tasks of an SEA, from the objectives of the planning, the description of the current state of the environment, the description and assessment of the likely environmental impacts of the planning to the consideration of reasonable alternatives and to mitigation and compensation measures. The result of the environmental assessment was a summarizing overall evaluation of the likely impacts, broken down by the land categories of the territorial plan such as residential, industrial and commercial areas, or transport, technical and social infrastructure. The following impacts on different subjects of protection were assigned to a five-point rating scale:

- Population and human health: life expectancy, diseases, noise;

- Climate / air: greenhouse gas emissions, pollutant emissions;
- Land: land consumption; amount of waste produced;
- Soil: pollution, water retention capacity;
- Ground and surface water: water resources, pollutant discharge;
- Species and biotopes (corresponds to biological diversity): Impairment of habitats of red-listed animal and plant species, overuse and impairment of forests;
- Landscape (cultural landscapes and recreational potential): Overuse and impairment of landscapes.

Significant adverse impacts are expected to result from the following planning activities: Logistics center, motor vehicle repair shop, bus stop, gas station, regional roads of local importance, industrial roads, main roads, sewage treatment plants, waste sorting plant, and poultry farm. Positive effects on the environment are expected from the green areas and vacation facilities in the rural environment.

As a result of the Comprehensive Plan review and consideration of potential compensatory mitigation measures, it is anticipated that the proposed territorial plan projects will not result in significant adverse impacts overall.

One of the new methods tested was the summary presentation of conservation concerns and impacts in fact sheets, e.g., for proposed poultry farm subdivisions and proposed residential development.

The result of the environmental assessment of the territorial plan is available as an environmental report in Ukrainian and contains 76 pages.

(4) Methodological guide

The aim of the methodological guide was to transfer the German planning experience gained in ten years of cooperation as comprehensively as possible to Ukraine and to further develop and supplement it for the level of the United Territorial Communities. The requirements for the improvement of spatial planning at the local level, which were identified together with the local administration, were also incorporated.

The first chapter of the guide deals directly with the results of the administrative reform in Ukraine as well as with the existing legal framework for spatial planning in at the local level. It contains a brief overview of the Sustainable Development Goals (SDGs) in Ukraine, approaches to "localization" of the SDGs, and their representation in the strategies and plans of the newly created territorial municipalities.

In the second chapter, Germany's experience with municipal landscape and urban land use planning is briefly presented, as are corresponding initial experiences in Ukraine. In addition to the methodological approaches available in both countries and the legal framework applicable in each case, the main challenges in carrying out environmental assessments in Ukraine are considered. So far, the methodological recommendations developed by the Ministry of Ecology and Natural Resources (now renamed the Ministry of Energy and Environmental Protection) are formulated in relatively general terms and therefore require concretization for territorial plans, especially those of the United Territorial Municipalities.

The third chapter describes central methods of integrating environmental concerns into the territorial plans of UTC. First, the objectives and levels of landscape planning as well as possibilities of integrating landscape planning issues into territorial planning are briefly presented. Subsequently, examples illustrate the procedure for the assessment and derivation of nature conservation objectives for the future development of a UTC. The possible contribution of landscape planning to the individual

procedural steps of a territorial plan is also shown. Proposals are developed to improve the map concept of the territorial plans. Further proposals concern a stronger anchoring of cartographic and textual statements of landscape planning in the existing state building standards and an optimization of the map series and the explanatory report on the territorial plan.

The methodological part is supplemented by a reading aid for the most important plan symbols in landscape and territorial planning, which is recommended to the UTC. Based on German practical examples, possibilities of graphical representation of environmental assessment results are shown.

The fourth chapter contains the main results of the consulting assistance project and the testing of the methods described in the previous chapter. This is followed by a brief overview of the model area and the reasons for its selection. The purpose of the practical application was to check the implementation of the methods in the Ukrainian legal system as well as to find solutions for dealing with data gaps and technical problems. Territorial planning assessments and recommendations were derived from the integrated landscape planning concept on objectives and measures, which are considered as plan specifications and graphically presented in several thematic maps of the territorial plan. Furthermore, the central statements of the environmental report are reproduced. Here, examples of methods used in Germany, especially for the operationalization of environmental objectives, for the classification of functions of natural assets and impact factors, for the quantitative and qualitative assessment as well as for the formulation of fact sheets, were transferred to the conditions in Ukraine.

The following conclusion can be drawn: The landscape plan's concept on goals and measures provides local communities with an important basis for implementing sustainable development goals, justifying the siting of investment projects in terms of nature conservation, and prioritizing tasks in socio-economic development strategies and programs. The existence of a landscape plan also facilitates environmental assessment, which can thus be carried out quickly and professionally. Thus, it can be expected that the results of the project will find wide application in Ukrainian planning practice.

The methodological guide was presented at the online final conference and subsequently sent to interested architects and researchers as well as to the administrations of United Territorial Communities.

The methodological guide and the supplementary reading aid for plan characters are available in Ukrainian. The guide comprises 172 pages, the reading aid 32 pages.