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**СОХРАНЕНИЕ ПАМЯТНИКОВ АРХИТЕКТУРЫ ГОРОДОВ ПУТЕМ РАЗРАБОТКИ  
МЕТОДИКИ КАЧЕСТВЕННОЙ И КОЛИЧЕСТВЕННОЙ ОЦЕНКИ ИХ СОСТОЯНИЯ  
И ВОЗМОЖНОСТИ ВОССТАНОВЛЕНИЯ ИЛИ РЕКОНСТРУКЦИИ**

**URBAN ARCHITECTURE SAVING BY DEVELOPMENT OF METHODOLOGY  
OF QUALITATIVE AND QUANTITIVE ASSESSMENT OF ITS CONDITION  
AND THE POSSIBILITY OF ITS RECREATION OR RECONSTRUCTION**

**Аннотация:** *Сохранение памятников архитектуры города Днепропетровска путем разработки методики качественной и количественной оценки с целью создания организационно-экономического плана их восстановления или реконструкции.*

**Ключевые слова:** *памятник архитектуры, область благополучия, оценка качества, реконструкция, восстановление.*

**Summary:** *Saving of architectural monuments of Dnepropetrovsk by developing methods of qualitative and quantitative assessment to build an organizational and economic plan of renovation or reconstruction.*

**Key words:** an architectural monument, an area of well-being, a qualitative assessment, a reconstruction, a restoration.

**The relevance of the topic:** the problem of preservation of monuments of Dnepropetrovsk as well as other cities in Ukraine is now very important. Due to the rapidly increasing number of destroyed and abandoned architectural monuments it is necessary to develop methods to assess the condition of architectural monuments and identify those that need to be saved first.

**The purpose:** preservation of monuments of Dnipropetrovsk by developing methods of quantitative and qualitative assessment in order to build the organizational and economic recovery plan or reconstruction and to define the most important ones.

**Assignment of the work:**

**A-** Development of assessment methodology of architectural monuments – Searching and determination of architectural monuments that are in a derelict state – Assessment of the performance of these monuments according to the created procedure.

- Searching and determination of architectural monuments that are in a derelict state;
- Assessment of the performance of these monuments according to the created procedure;
- Determination of the sequence of hierarchical restoration of monuments.

The methodology assessing the quality and safety of social life was developed in «Prydneprovskaya State Academy of Civing Engineering and Architecture» [1].

System areas have the code XX-YY (Figure 1) where the first digit indicates the area where the well-being monuments and the second – the evaluation factors.

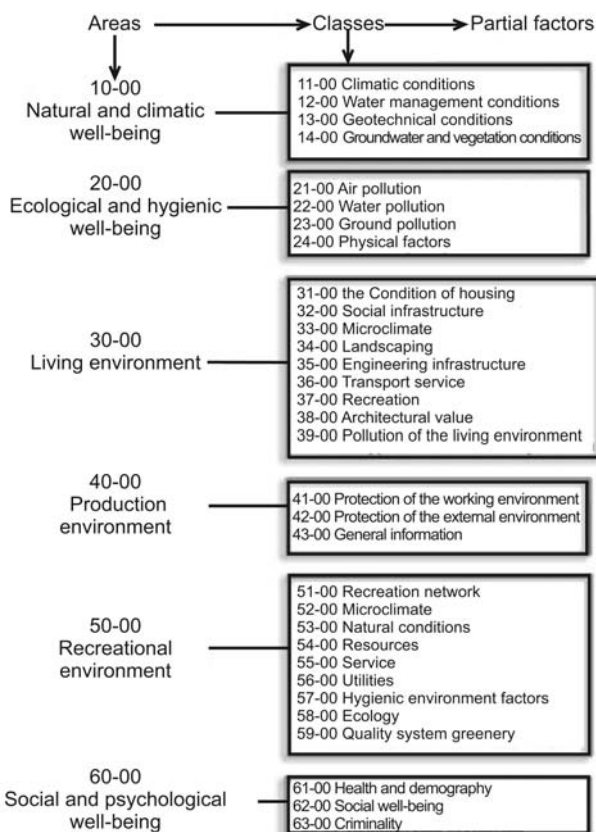


Figure 1 Current structure of the life safety quality system

**Innovative aspects and their main advantages:** for the first time the technique of qualitative evaluation of architectural monuments is created, which complements the existing methodology «Evaluation of environmental quality» by the area of well-being 70-00. This area includes 4 classes which to evaluates the suggested 15 factors.

1. The hierarchy of conservation and restoration of monuments is identified.
2. It is proposed to complet the area of well-being 70-00 «Historical Center». The scheme is proposed by the region in Figure 2.
3. The valuation of the importance of each of the factors in group is conducted for future use. (Table 1)
4. The evaluation of the importance of each group of interconnected factors is conducted. (Table 2).

Table 1

Factor	Weight of the factor in a group	Factor	Weight of the factor in a group
Group 1. 71-00		Group 2. 72-00	
71-01	2	72-01	1,5
71-02	1	72-02	2
71-03	1	72-03	1
71-04	2	72-04	1,5
Group 3. 73-00 *		Group 4. 74-00	
73-01	1	74-01	1
73-02	1	74-02	2
73-03	1	74-03	2
		74-04	1

\* The evaluation should be conducted for the monuments which were reconstructed and separately for those for which it was not.

Table 2

Name of group	Weight of a group
71-00 Historical and architectural value of the building	3
72-00 Urban Development Factor	1,5
73-00 Constructive factor	1
74-00 Social factor	0,5

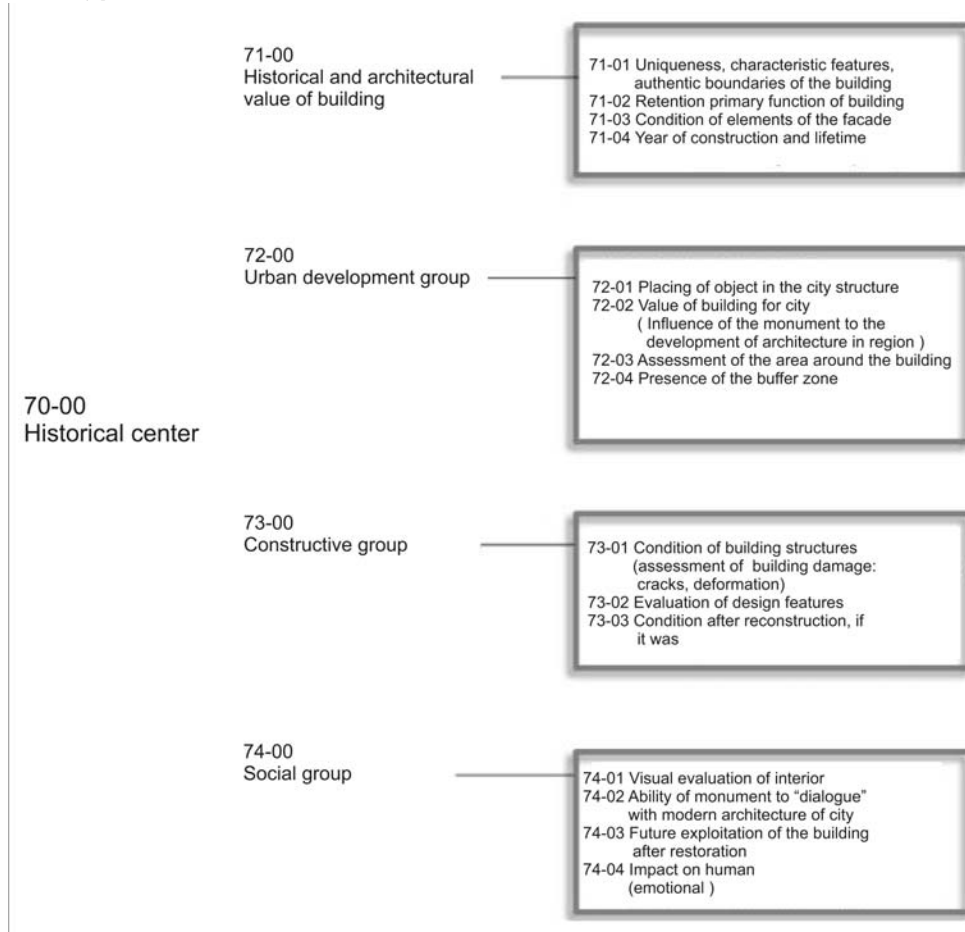


Figure 2 The addition to the quality of life safety systems

**The practical significance of the results:**

- Creation of the methodology for assessing condition of preservation and restoration of monuments of architecture;
- Reduction of volumes of the destruction of architectural monuments and the degree of their neglect;
- Possibility of monitoring monuments in every region of Ukraine with the methodology proposed by authors
- Increasing the number of architectural and cultural heritage of the Dnepropetrovsk region (and then the whole Ukraine) of the national and the local importance;
- Possibility of rational distribution of earmarked funds for the restoration of the most important monuments.

The authors have examined 4 monuments. Photos shown in figure 3. The evaluation was conducted by the authors according to developed criteria. It is based on the methods and recommendations described in the works [2-9]. Example evaluation for «Pomerantsev's House», Kharkivska, is presented in the table 3-6.

The result of the assessment of all 4 monuments by 4 groups of factors is presented in the table. 7.

Based on the methodology proposed by the authors' qualitative and quantitative assessment of the state of the monument we can make the following conclusions:

1. All monuments are in the same condition requiring immediate actions to save them.
2. Priority given to restoration of the monuments is in the column 7 of the table. 7

Table 7

№	Название объекта	Historical and architectural value of building	Urban development factor	Constructive factor	Social factor	Priority of recovery
1	2	3	4	5	6	7
1	«Pomerantsev's House»	42,5%	55,25%	16,85%	37,5%	2
2	Home address street Beconase, 17	42,5%	49,1%	16,85%	37,5%	1
3	The complex houses on the street address Artem 22,24,26	51%	49,1%	16,85%	37,5%	3



Figure 3. «Pomerantsev's House», Kharkivska, 6



Figure 4. Home address street Beconase, 17



Figure 5. The complex houses on the street address Artem 22,24,26.

«Pomerantsev's House», Kharkivska, 6

Table 3

Class		Factors			Type of indicator	Weight of the factor $\omega$	Actual value	Assessment	
Cipher	Group	Cipher	Name	Unit of measurement				$\delta$	$\omega \cdot \delta$
71-00	Historical and architectural value of building	71-01	Uniqueness, characteristic features, authentic boundaries of the building	%	B	2,0	70-90% – ЧП; – 50-70%	2	4
		71-02	Retention primary function of building	%	B	1,0	50-70% – НП; < 50%	1	1
		71-03	Condition of elements of the facade	%	C	1,0	50-70% – НП; < 50%	1	1
		71-04	Year of construction and lifetime	%	B	2,0	70-90% – ЧП; – 50-70%	2	4
					Total:	6,0	1,7 =42,5%	K=4+1+1+4 =10	

Table 4

Class		Factors			Type of indicator	Weight of the factor $\omega$	Actual value	Assessment	
Cipher	Group	Cipher	Name	Unit of measurement				$\delta$	$\omega * \delta$
72-00	Urban development factor	72-01	Placing of object in the city structure	%	B	1,5	105% – ПП; – 90-105%	3	4,5
		72-02	Value of building for city (Influence of the monument to the development of architecture in region )	%	C	2,0	70-90% – ЧП; – 50-70%	2	4
		72-03	Assessment of the area around the building	%	C	1,0	70-90% – ЧП; – 50-70%	2	2
		72-04	Presence of the buffer zone	%	A	1,5	70-90% – ЧП; – 50-70%	2	3
					Total:	6,0	2,25=55,25%	K=4,5+4+2+3=13,5	

Table 5

Class		Factors			Type of indicator	Weight of the factor $\omega$	Actual value	Assessment	
Cipher	Group	Cipher	Name	Unit of measurement				$\delta$	$\omega * \delta$
73-00	Constructive factor	73-01	Condition of building structures (assessment of building damage: cracks, deformation)	%	B	1,0	50-70% – НП; < 50%	1	1
		73-02	Evaluation of design features	%	C	1,0	50-70% – НП; < 50%	1	1
		73-03	Condition after reconstruction, if it was	%	B	1,0	-	-	-
					Total:	3,0	0,67=16,85%	K=1+1=2	

Table 6

Class		Factors			Type of indicator	Weight of the factor $\omega$	Actual value	Assessment	
Cipher	Group	Cipher	Name	Unit of measurement				$\delta$	$\omega * \delta$
74-00	Social factor	74-01	Visual evaluation of interior	%	C	1,0	50-70% – НП; < 50%	1	1
		74-02	Ability of monument to «dialogue» with modern architecture of city	%	C	2,0	70-90% – ЧП; – 50-70%	2	4
		74-03	Future exploitation of the building after restoration	%	C	2,0	50-70% – НП; < 50%	1	2
		74-04	Impact on human (emotional )	%	D	1,0	70-90% – ЧП; – 50-70%	2	2
					Total:	6,0	1,5=37,5%	K=1+4+2+2=9	

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