Rural Housing Planning Model in the south of Russia (on the example of the Rostov region)

A M Vorobeva*, Yu Ya Dvornikov
Don State Technical University, 1, Gagarin sq., Rostov-on-Don, 344010, Russia

E-mail: rostland@mail.ru

Introduction
In connection with the emergence of environmental problems in the world, a tendency to relocate people from the large cities to suburbs and rural settlements has been observed. This situation is developing both in our country and abroad. The resettlement process is also associated with the fact that as a result of the development of technical means, issues of transport accessibility to the places of employment and population are easily resolved. But in rural conditions, people want to live in the same conditions that they are used to in the city. Their housing requirements are different. They are usually determined by the appropriate family income level.

Housing issues in our country, as in all time periods, remain a priority in public policy. The federal target program “Housing” adopted in our country is national. Its main provisions are implemented on the territory of all the constituent entities of the Russian Federation, including the South Russian region.

The main provisions of the regional policy in rural housing
In order to create comfortable living conditions in rural areas, create a favorable infrastructure and a positive attitude towards the rural lifestyles, the subprograms for sustainable development of rural territories of the Rostov Region for 2014 - 2017 and for the period until 2020 are being implemented in all areas of the Rostov Region. They include the measures to co-finance the local expenses, including the provision of subsidies from the federal and regional budgets. As a result, it will be possible to solve the problems by intensifying public investment and creating an enabling environment for the activation of the private investors facing the rural construction complex as a whole. Accordingly, in modern conditions, financing of housing construction and arrangement of rural settlements is becoming multilevel.

According to the Concept of Sustainable Development of Rural Territories of the Rostov Region, in order to create favorable conditions for attracting labor, a special policy will be pursued in the field of developing social and engineering infrastructure of rural areas, aimed at creating a favorable living environment for the people with different incomes living in rural areas.

Features of rural housing
An analysis of the housing construction historical experience shows that the boundaries between urban and rural individual residential development are gradually blurring. So, for example, in rural settlements the traditionally existing types of housing disappear. In the Rostov region, traditional housing - the original Cossack house – kuren can be taken as an example. The only surviving
buildings of kuren can be found in the village of Starocherkasskaya and other Cossack settlements. This situation is largely due to the transition in the country to more economical technologies in housing construction (the transition in the 60s from the individual standard projects to the creation of complete housing zonal series, etc.).

**Current housing trends in the new economic environment.**

A specific feature of modern Russian society is distinctly emerging various social strata of the population. The design standards of the Soviet period, as well as the regional standards approved over the past decades, are gradually becoming obsolete. In the current market economy, the requirements for individual housing construction have also changed.

The studies of the housing problem, conducted by a number of authors show that in the country at the present time a unified system for classifying the socio-architectural typology of housing has not been formed. A number of scientists conducted their research on the market housing concepts depending on the social and property class of the consumer [1, 2, 3, 4]. Table 1 shows a comparative analysis of the architectural and typological concepts of market housing by social and property classes of the consumer. It makes possible to determine the architectural and consumer characteristics of the house better and to apply a special scale of housing security in the development of planning projects for the rural settlements in southern Russia.

At the same time, each housing class presents its requirements to it for many factors (Table 1). And this is not only the composition of the premises in the house, but also the accessibility to the service facilities, proximity to the center, level of improvement, etc. For example, the current trends in the formation of “villages” for wealthy citizens lead to social tensions in society. Abroad, they have already realized the fallacy of this approach to individual housing construction. And foreign architects combine different classes of housing in new quarters to solve this problem.

When developing the planning projects, it is recommended to provide for the combination of the different classes’ dwellings and the types on the territory of one residential formation. To address the issues of cohabitation, the *conceptual model* built-up territory is offered for various social groups in the same territory, in which the main emphasis of the “neighborhood” was placed on the idea of residential education as a social tool for the accelerated integration of different social groups into a common value system. It provides the distribution of buildings taking into account the social and property level of the rural consumer around the main communicative space organized in the public zone (Figure 1).

**Table 1.** Comparison of architectural and typological concepts of market housing by social and property classes of the consumers

| Criteria | K.K. Kartashova (1985) | Special scale |
| --- | --- | --- |
| Class | Housing rate is provided. | 5 m² living area / person | 7-9 m² living area / person | 12-13 m² living area / person | 13.5-15 living area / person | 16-18 living area / person | 20-25 m² living area / person |
| | | Low, 10.8[%] | Potential middle, 70.2[%] | Middle, 10-19[%] | Highest to 4[%] |
| K.V. Kutuzov (1994) | Housing rate is provided. | 20 m² living area / person | 20-24 m² living area / person | 24-26 m² living area / person | 26-28 m² living area / person | 28-30 m² living area / person | 28-32 m² living area / person |
| Forms of ownership | Social rent | Social rent | Cooperative rent | Private rental | Own apartment | Own house |
| Class                  | Economic housing                                      | Comfortable housing | High quality |
|-----------------------|-------------------------------------------------------|---------------------|--------------|
| Housing rate is provided | Minimum housing: 9 m² residential, 13.5 m² total area per person | Affordable Housing: 12 m² residential, 18 m² total area | More than 32 m² total area per person |
| Check-in formula      | k = n - 1                                             | k = n               | k = n + 1    |
| Main house type       | Apartment, typical house                              | Apartment, cottage  | Block apartment, mansion | Individual house villa |

| In terms of comfort   | Social housing                                        | High level of comfort | Increased comfort |
| According to the composition of the premises | Limited Housing                                      | Expanded flats and residential buildings | With a developed composition of the premises |

| Social (municipal housing) (60-30%) | Mass (economy class) (25-50%) | Prestigious (business class) (10-15%) |
|-----------------------------------|-------------------------------|--------------------------------------|

| The housing supply norm | 20 m² total area per person | 30 m² total area / person | 40 m² total area / person |
|-------------------------|------------------------------|--------------------------|--------------------------|
| Check-in formula        | k = n - 1                    | k = n                    | k = n + 1                | k = n + 2                |

### Diagram

- **affordable housing**
- **comfortable premises**
- **premium-class**
- **main communicative space**
- **private zone**
- **public parking**
Figure 1. Recommended Territory Development Model in Rural Settlement Projects

On the territory of the main commutation space zone, the social and communicative functions (area or green area of the common area in the form of a garden, boulevard or square) can be performed. The configuration of this territory can be very different - concentrated, linear, mixed. The basic concept in its placement is its relatively central location and the connection with all the structural elements of a residential formation. In the main directions leading to the public zone, it is recommended to allocate a pedestrian space isolated from transport by the planning and landscape means.

A special place should be given to the functional richness of the main communicative space. It is necessary to identify the main (mandatory) functional areas: places for quiet relaxation and a walking area, play areas for children (playgrounds taking age groups into account), a sports area, a training area for the joint activities of all social groups, etc.

For individual social groups the semi-private spaces of residential quarters at the boundaries of private and public spaces can be created. The creation of such semi-private spaces expands the activities outside the house and the opportunities for contact with neighbors, while remaining safe.

The trend towards the rational functional zoning has long been established in the practice of both experimental and standard design. Each of the zones functions independently of each other. It should also be noted that, in general, the consumers seek to reduce the number of storeys when creating their homes and expand the typological range of planning decisions. In the practice of individual housing construction, the planning decisions are mainly determined by the averaged regulatory requirements, with the elite housing exception. In this case, to show the individuality of the house, the architect elaborates on the facades, balconies in more detail and uses the color scheme more actively.
**Summary**

*Figure 2.* The model implementation on the example of the road transport policy of the Troitsky rural settlement in Neklinovsky district of the Rostov region
An analysis of the modern housing development trends shows that in the practice of design and construction at the level of project development, planning, it is necessary to expand the basic requirements for the territories’ design and their development, taking into account the new trends in the design of individual residential development in the region. The creation of comfortable living conditions in an individual dwelling in some cases is achieved by the inclusion of “nature” in the dwelling structure. This can be achieved by creating the open terraces oriented to “own kindergarten”, winter gardens, landscaping of vertical surfaces, etc.

References
[1] Kartashova K K 1985 *The formation of the architectural and planning structure of urban housing on a socio-demographic basis: abstract* (dis. ... doctor. architect 18.00.02, Moscow, MARCHI).
[2] Kutuzov V V 1994 *Reproduction of housing in a socially oriented market economy (“Housing for all and the market”)* (Moscow, CSRPI dwellings) 290.
[3] LOCAL REGULATIONS FOR URBAN PLANNING Municipal Formation “Neklinovsky District”, 322 / I-16-NGP-1, Rostov-on-Don, 2016.
[4] Molchanov V M, Blagova M V 2014 Socio-architectural typology of modern commercial housing in Russia *Bulletin of TSACU* 1 38-46.