

# Preservation of Development of Beauty and Individuality of Rural Settlements\*

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**Abstract**—The article looks at the problems of creating decent living environment in rural areas. The author proposes architectural and urban-planning means connected with designation within the region of municipal units with local self-government bodies and population about 1500 — 2000 people. The article analyzes two pilot projects of complex housing and reveals the priorities in choosing the designs of residential and public buildings.

**Keywords**—rural territory; rural settlement; district; local self-government; pilot projects of complex housing; dwelling; social infrastructure

## I. INTRODUCTION

Rural territories of Russia have natural, demographic, economic, cultural, and historical potential, which, if used rationally and efficiently, can ensure their sustainable development, and high quality of life for the people.

Currently, the situation in the countryside is complicated. 37.1 million people (26% of Russia's population) live in rural areas. 153.1 thousand settlements are located in rural areas, of which only 133.7 thousand have permanent residents. The network of settlements is scarcely populated and dispersedly located: about one third of villages are home for less than 10 people; the number of villages with no permanent population increased to 19 thousand. The production structure of many farms, especially state farms, is destroyed. According to the latest agricultural census, the average remoteness of a rural hospital is 81 km, of an ambulatory clinic — 39 km, of a school — 16 km, of a kindergarten — 21 km, of a club — 14 km. The migration of the rural population to the cities is very significant: about 30% of rural residents, including 50% of young people, either are sure to leave or are thinking about leaving their home village [1].

In such conditions, state support is necessary. The current federal target program "Sustainable development of rural territories for 2014 — 2017 and for the period until 2020", approved by the Government of the Russian Federation on

July 15, 2013, No. 598 [2], is aimed at transforming the village by increasing housing and recreative building, replacing the dilapidated housing, and creating 132 pilot settlements.

Significant financial investments in this Program require scientific substantiation based on positive experience in the development of villages characterized by a comfortable living environment, beauty, and originality.

Further in the article, we will look at the structuring of rural areas with designated local municipalities; show the role of pilot settlements, serving as a model for the development of entire settlements or their elements; reveal the principles of spatial organization of the village; emphasize the diversity of residential and public buildings that residents need.

## II. URBAN-PLANNING TRANSFORMATIONS

To bring administrative functions closer to people, local municipal units, such as district (okrug), volost, ulus, and rural settlement, are designated within the region<sup>1</sup>. On a territorial level, these municipal units exist within the boundaries of former rural councils, but their functions and funding are significantly extended. They are independent urban-planning units, each with a self-government body, which is responsible for the living conditions of the people living in the district.

Typically, about 1.5 — 2 thousand people live in a district; however, there are smaller districts with about a thousand people, and larger ones — up to 3 or 4 thousand. Naturally raising the number of people living in a district makes it possible to rationally solve problems in social and engineering infrastructures.

Let us look at the characteristics of districts under consideration in different regions to highlight the variety of situations.

- Alekseyevskoye rural settlement in Yakovlevsky region of Belgorod Oblast: the population is 1630 people, 3 villages and 1 isolated farmstead, 2

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<sup>1</sup> These are the names of small municipal units emphasizing that the whole territory is viewed as a single settlement.

enterprises: Krasnenskoye closed joint-stock company and Shchepkin collective farm;

- Kuzyayevsky rural district in Dmitrov region of Moscow Oblast: the population is 2613 people, 2 settlements and 10 villages, 2 enterprises: Borets and Gurban open joint-stock companies;
- Shopinsky rural district of Kaluga region of Kaluga Oblast: the population is 4000 people, one village Shopino, one rural cooperative organization.

The structuring of a region into local municipalities is clearly seen in Kromsky region of Oryol Oblast ("Fig. 1"). The settlement of Kromy has existed since 1147. The population of Kromsky region is 20.9 thousand people, with 6.8 thousand urban dwellers and 14.1 thousand rural dwellers. A total of 12 districts have been designated, with two or three agricultural enterprises in each which make the foundation for living in the districts. For example, in Shahovskoye district (top right) there are Oka and Novotroitskoye enterprises and 13 settlements with a center in Ulyanovka village.

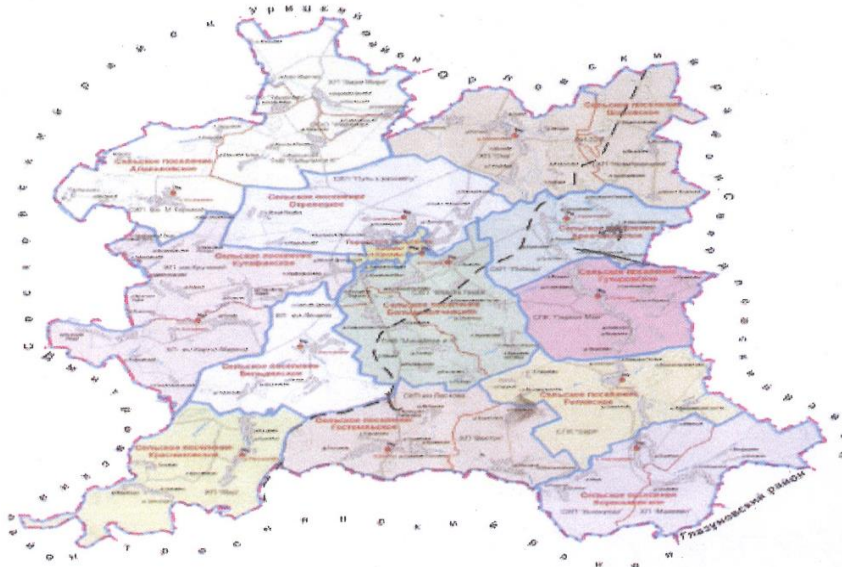


Fig. 1. Schematic view of Kromsky region of Oryol Oblast with district borders.

It is worth paying special attention to the architectural solution of Kuzyayevsky district with the center in Podosinovka village. The author examined it 3 times over seven years, which made possible to identify the sequence of construction of facilities depending on the demand. The Borets agricultural company is an old enterprise, the former Borets collective farm, which has existed since the 30s. That is why it still has old housing and many public buildings. Under the new economic conditions, the first to be built was a block of two-story apartment buildings for young families with a service pavilion and a general education school for 550 pupils from several districts.

Summarizing the practicality of the designation of municipal units, we should emphasize that it is possible not only to rationally solve the problem of infrastructure, but also to use objects that were previously not characteristic of rural areas and to cover the most remote villages.

### III. PILOT SETTLEMENTS WITH COMPLEX HOUSING

Pilot settlements, which demonstrate the possibilities of sustainable living conditions in rural settlements, were selected in different regions and at different moments of time [3].

The village of Varnitsy, Vologda Oblast, which was the center of salt production in old Russia, has existed since the

13th century; Kultuban village in the Republic of Bashkortostan is being built on a recently developed territory.

The project for modern Varnitsy was developed by the Golovnoye HPPAP Byuro Company in Vologda taking into account the history of the village.

When salt production became unprofitable in comparison with other places, the village of Varnitsy became purely agricultural; the main areas of production are agricultural machinery repair, drying facilities, veterinary services. Totemsky agricultural complex is a solid enterprise, people are wealthy enough, the housing is mostly one- and two-storied manor houses. Near the production zone, there two- and three-storied sectional houses with all the amenities and a common utility yard.

The planning structure of the village is irregular, depending on the direction of three small rivers and the terrain. The Church of the Resurrection dominates in the composition. Built in 1800, it is a monument of federal significance ("Fig. 2"). Around the church there is a preservation zone, where only one- and two-storied houses are allowed to be built. The social services sector is full-fledged: apart from the usual administrative and commercial buildings, there are sports and fitness complex ("Fig. 3"), a cultural center, and an orphanage.



Fig. 2. The Church of Resurrection in a pilot settlement — Varnitsy village in Vologda Oblast.

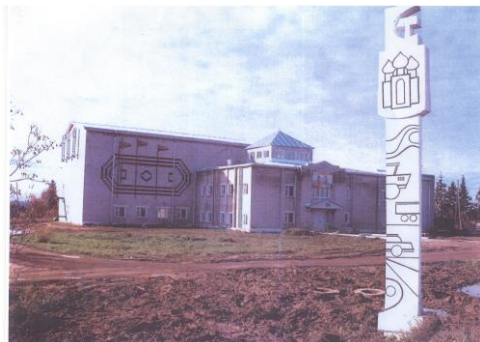


Fig. 3. A sign at the entrance to Varnitsy village and a fitness complex.

The population of Varnitsy increases each year. Positive indicators of the demographic structure were achieved: children under 6 years old make up 4.7%, schoolchildren from 7 to 17 years old — 13.7%, employable adults — 68.2%, elderly people — 13.4%. The total living space in the village is 26.6 square meters per person.

The second example of a pilot settlement is the village of Kultuban of Baymasky region of the Republic of Bashkortostan. The project was developed by Bashagropromtehpriyekt Institute. The village is located near Kultuban lake, not far from the road connecting the city of Sibay and the village of Aktyar.

The purpose of the development of this pilot settlement, in which previously there was only one street along the lake, was to create living conditions for graduates of special educational institutions; urban residents motivated for farming; retired military personnel. For this purpose, a developed and diversified production zone has been created.

The planning structure of the village is fan-shaped and opens towards the lake. Houses are single-storied manors. There is only one chain of two-story houses along the street near the lake. The blocks have green areas for recreation and games. The most interesting in Kultuban are public buildings: all of them are cooperated type. The largest building is a cultural and educational center, which includes a general education school for 120 pupils, a club for 200 visitors, a 540 square meter gym, a swimming pool, and kindergarten for 40 children. This complex finishes the main entrance street. In front of this complex there is a trade center with shops, a hotel, consumer services, and a medical station. Also, there is an administrative center, which houses the administration

of the village, a post office, a bank, and a cafe. Other service facilities include a bus station and a fire station.

Considering the diversity of population, there is a church and a mosque in different parts of the village.

It should be noted, that apart from creating a comfortable environment for people and providing workplaces for them, the authors aimed at introducing the forms and techniques of Bashkir traditional architecture — a system of domes, free layout of rooms, elements of national decor, and bright colors to the concept of the settlement.

According to the Federal Target Program for Sustainable Development of Rural Settlements until 2020 [2], the number of pilot settlements has been increased to 132, but their nature has changed — basically, now these are not whole settlements, but single residential units created along with new or reconstructed enterprises. The projects usually suppose 20, 30, or 50 houses. The site for this housing is decided beforehand; engineering and transport networks, landscaping are carried out by the municipal district, residential buildings are built by the enterprise. As a rule, young families move to these houses and pay their price for several years. In terms of planning, such a residential complex takes form of a garden, a square, a small block, a boulevard, and a section of the street. In addition to residential buildings, depending on local conditions, service institutions may be included into the project.

Interesting is the residential group of 22 residential buildings and a kindergarten built in the large village of Manturovo, Kursk Oblast ("Fig. 4"). They were built with the use of a Canadian technology based on a framework and "breathing" panels made of hard wood with subsequent siding. This technology is very effective for low-rise construction due to the speed of construction and its heat — and power-saving characteristics.

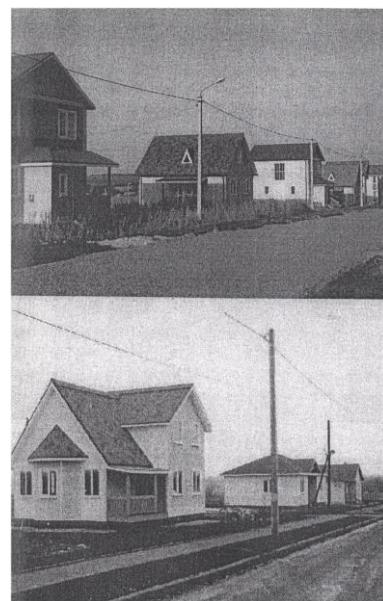


Fig. 4. A pilot group of houses built with the use of a Canadian technology in Manturovo village in Kursk Oblast.



In general, pilot design is useful in showing how to improve the living environment of a modern settlement.

#### IV. PRINCIPLES OF SPECIAL ORGANIZATION OF THE VILLAGE

Each village develops according to centuries-old patterns and has certain elements, but they are combined in different ways, which gives each settlement its individuality [4]. These patterns include: presence of a landmark visible from long distances — the vertical of a bell tower, unusual shapes of domes; communication with the outside world and organization of the entrance into the settlement; division of the territory into residential and production zones; planning structure in the form of blocks or residential groups with perimeter distribution of households; organization of the public center in the form of a garden or square with isolated placement of the main volume; emphasizing the role of the main street; use of natural landmarks.

The examples of two villages — Shygyrdan rural settlement of the Republic of Chuvashia ("Fig. 5") and the village of Vyatskoye of Yaroslavl Oblast ("Fig. 6") — demonstrate how different their images are.



Fig. 5. Shygyrdan rural settlement in the Batyrevsky district of Chuvashiya Republic.



Fig. 6. Vyatskoye village in Yaroslavl Oblast. A residential street with hotels and guesthouses.

Shygyrdan is a large settlement with 5894 residents and 2020 households. People are engaged in farming and product processing. Large neighborhoods are outlined by residential buildings of various types: one- and two-storied, with regular courtyards, or courtyards with a roof protecting against bad weather. Each group of neighborhoods has its own mosque. All the mosques have same elements — a minaret, a balcony, and an entrance, but in different combinations, which makes their images different from each other. Institutions for children are dispersed throughout the blocks; all service facilities are concentrated in the public center.

The population of Shygyrdan grows with each year, young families appear, new housing is being built in the western part of the settlement on Zapadnaya, Solnechnaya, and Lugovaya streets.

Vyatskoye village is of a completely different kind: it is historical and economically diversified. Apart from the economic activity — growing and processing vegetables — people are engaged in commerce and craftsmanship. Fairs have been regularly held in Vyatskoye since the 18th century. A century later, different types of arts emerge; artisans work and hold master classes. Therefore, now Vyatskoye has become an open-air museum and a touristic center. This has also determined the nature of residential development with such types of buildings as hotels and guesthouses. The central streets demonstrate the restored building of the Yaroslavl Investment and Finance Company and the facades of other old buildings [5]. There are old churches, chapels, and holy water springs. There are about 10 museums: the museums of the Russian industry, peasant commerce, kitchen machinery, Russian bathhouse, etc.

The village of Vyatskoye is an important religious center. The 1750 church of the Resurrection of Christ has been restored and is active today.

No matter how many objects for tourists there are, Vyatskoye village is not a beautiful theatrical set, but a rather ordinary rural settlement where farmers and artisans live.

#### V. TYPES OF RESIDENTIAL AND PUBLIC BUILDINGS

The main type of a rural house is still a single-family house. Thus type of a house provides the most convenient ties with the land lot and the environment. Such a house can "grow" through horizontal expansion or through adding an attic. Access to the land lot is provided by paired or blocked houses, especially four-house blocks. The combined structure, such as blocked-sectional or low-rise-sectional houses are less common.

Recently, new types of residential buildings have appeared: houses with a workplace and rental houses.

Houses with a workplace can have different profiles: a mechanic's house, an electrician's house, an artisan's house, a shopkeeper's house, a doctor's house, etc. Accordingly, apart from residential rooms these houses have extra premises for communication with clients, working, storekeeping, etc.

Rental houses are also new, they have labor and recreational purposes — for the young families who have come to a new workplace and do not have a place to live yet; for those who came to learn about the working conditions, for long-term rest. Such a rental guesthouse was built in Romanovo village of Medynsky region in Kaluga Oblast, which is part of the system of settlements around a large enterprise of seven farms. This is a four-storied house ("Fig. 7") with a corridor system, designed for 35 — 40 people with twin rooms that have a shower and a toilet. There is also a restaurant, a cinema hall, a first-aid post, a sauna, a Russian-style bathhouse, a laundry, and access to the Internet.



Fig. 7. A rental type guesthouse in Romanovo village in Kaluga Oblast.

The settlement belonging to Belaya Dacha agricultural company in Moscow Oblast has a similar solution, but consisting of seven separate 2- and 3-room rental houses with a service unit.

Such objects attract people to the rural areas.

Public buildings have also acquired some new elements. First is bringing services closer to people through the development of the dispatch service and the order system. More objects are now private. Schools are designed to provide full general education small classes and special transport for taking students to school. Sometimes the first level of primary school is combined with kindergarten to bring education closer to people. Important are the cooperative-type housing several organizations, which makes the use of the premises more effective. New types of buildings that were previously not characteristic of the village appear: veterans' houses, museums, exhibition galleries, health centers.

## VI. CONCLUSION

The strategic directions of the development of rural settlements include the following:

- designation within the region of local municipalities with a self-government body to solve the living environment problems of all settlements;
- construction of pilot settlements and residential units with integrated compact planning;
- use traditional patterns in spatial planning and combining them depending on local conditions to bring uniqueness to the image of the village;
- implementation of new types of residential and public buildings taking into account the characteristics of the rural area and the opportunities provided by the technical progress.

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