



Journal of Applied Sciences

ISSN 1812-5654

science
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Practical Exploration and Enlightenment of the Country Construction after the Urbanization Rate in European Developed Countries Surpasses 50%

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Abstract: In order to learn European developed countries' successful experience in country construction after the urbanization rate was over 50%, the paper analyzed the characteristics the European countryside shown which included the pastoral layout, historic construction styles and the postmodern trend etc. and then summarized European developed countries' experience in public policy implementing, space planning, community infrastructure construction, cultural inheritance, ecological ethics etc. Finally proposed that China's rural constructions in the future should pay attention to the following points, to adhere to the rural characteristics; to fully show the ecological idea of low carbon; to comply with the planning and regulatory; to complete the fundamental infrastructure construction; to choose compact development model.

Key words: European developed countries, rural constructions, practical research, enlightenment

INTRODUCTION

Chinese urbanization rate surpassed 50% and reached to 51.3% in 2011 which indicated that urban development had in a new historical period in China (Niu, 2012). According to the urban and rural development process of western developed countries, urbanization rate of 50% was an inflection point of urban-rural relations and the development. Marx predicted that "what industrially developed countries showed to less developed countries was only the latter future picture." European countries completed urbanization and achieved to urban-rural integration. Their rural construction levels had been recognized worldwide. Researching European countries facing challenges, values and practical paths on the rural construction after the urbanization rate over 50%, would to be inspiration and reference to Chinese current and future rural construction.

GENERAL CHARACTERISTICS OF THE CURRENT RURAL DEVELOPMENT IN EUROPEAN COUNTRIES

Currently, the general characteristics of rural construction in European countries showed as following three aspects: "Pastoral" type of arrangement forms. Each village was a dark green cluster. They sporadically embed in the expanse pale green fields, pastures and mountains. There was not garbage and polluted water, car

noise, odor but full of crystal clear gurgling water which showed a picturesque natural and harmony beauty. Rich in history and culture construction style. Here there are few villages built in twentieth century. The architectural style of country house inherited the long heritage of ethnic architecture but also combined with modern elements which reflected the history, nationality, modernity and diversity and other major features. Postmodern trends. After modernization, rural areas grown to an open space network connected with roads and infrastructure and entered the post-modern stage of development.

CHALLENGES, THE VALUE ORIENTATION OF EUROPEAN COUNTRIES RURAL CONSTRUCTION AFTER THE URBANIZATION RATE OVER 50%

Challenges:

- **The relationship between urban and rural areas:** The process of the urban and rural development in western developed countries shown that "unity-separation-integration" is the basic law of the evolution of urban-rural relations (Ye and Chen, 2008). After the industrial revolution, the urban developed rapidly while rural were decaying in European countries, that showed a typical urban-rural relations "dual" feature (Preston, 1975). After the urbanization rate over 50%, the gap

between urban and rural areas was growing, so that people had to once again reflect deeply the relationship between urban and rural development (Michael, 1977)

- **Population transfer:** After the urbanization rate over 50% in European, the urban disease became increasingly serious. So the urbanization direction was reversed from the non-agricultural population concentrating into the major cities to spreading in the vast rural areas
- **Rural human settlement environment:** Towns and villages environmental damage was huge in Europe by World War II. Though many European countries urbanization rate was over 50% at that time but the rural living conditions was poor, many housings were damaged, infrastructure was backward, rural economy was recession and even there were many places to be assessed as unfit for habitation areas. In 1942 the British government's "Scooter Report" noted that according to the rural basic living standards, 20% of the rural houses were uninhabitable
- **Urban sprawl:** Urbanization rate over 50%, the town borderless spreading led to a series of problems, such as agricultural land reduction, water shortages, energy supply and demand tension, traffic congestion, environmental degradation, destruction of historical and cultural heritage etc. These issues affected not only the city development but also threat to rural development (Mills, 2003). To the 1990s, the "urban sprawl" was considered as the main reason that led to the uncoordinated urban and rural development after urbanization rate over 50%
- **Issue of food security:** After World War II, the contradiction between people and land was intensified. Food security issues plagued the world, of course including European countries (Yin, 2009). Therefore, from a certain sense, the European rural development was carried out around the issue of food security. This was why so years since World War II, Europe had remained stable grain production land area

Value orientation: After the urbanization rate over 50% in European, the series of social problems sparked the deep thinking of the rural development and ideal living environment in whole community. Some countries put forward the "equalization of urban and rural life" concept and even proposed to "return to village". Overall, since World War II, the habitat environmental science had gone three spans from town to village, from the built environment to the ecological environment, from the physical environment to the human environment (Qi *et al.*, 2007), People gave up mechanistic view and

recognized that living environment should adhere to the people-oriented idea. Creating a living environment should accord to the complexity of life itself but not to the image of the machine and should comprehensively consider the base of natural ecosystems.

The European rural construction concept highlighted two aspects, first was to adhere to eco-centric. The rural ecological environment protection was attached great importance during building in these countries. Human just was a component rather than a master of nature. The rural communities were examined by the ecological way. It was a precondition to improve and protect the environment. The community population size, mode of production and way of life were determined by researching the relationships among the rural communities and the natural landscape, ecosystems, water and energy which reflected coordinated development among of the natural, economic and social development. Second, adhere to the people-oriented. From rural spatial planning, community residential design, public space design, construction of public facilities, to the rural management and the neighborhood culture construction, all of these fully reflected the person's care and respect of the nature.

EUROPEAN COUNTRIES RURAL CONSTRUCTION PRACTICAL EXPERIENCE AFTER THE URBANIZATION RATE OVER 50%

Rural construction activities are regulated and restrained by laws: In European countries, the rural developments had today's achievements, first of all thanked to the perfect relevant laws and regulations. In England, the specific regulations for rural building could be traced back to "Scooter Report" in 1942. After the introduction of the "Town and Country Planning Act" in 1947, for the first time the urban and rural areas were planned and constructed as a whole. Today, the UK had built a relatively complete, interoperable rural construction regulation system. Germany had a strict system of spatial planning regulations. They were composed of the federal spatial order planning, the state domain planning, regional planning and local planning. The local planning made by local governments, consists of two parts: the land use planning and the building planning which would guide local land development activities (Yi, 2010). France had strict planning permission system which included three parts: The urban planning permission, building permits and demolition permits (Liu, 2010).

Rural spatial planning adhere to green eco concept: European countries rural community planning always adhered to green ecological development orientation. In layout, the rural communities are generally composed of green open spaces, green networks and green community

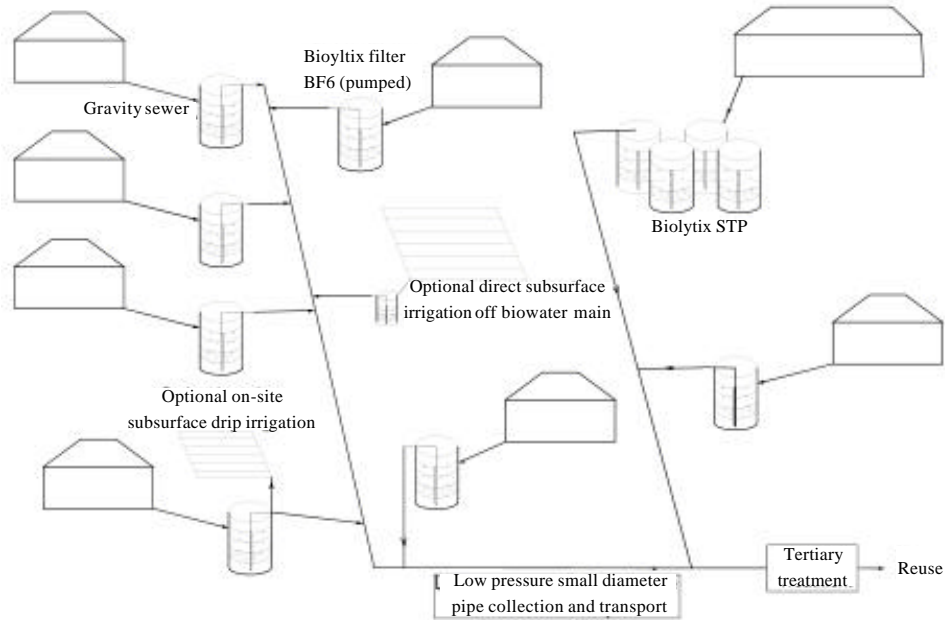


Fig. 1: Biowater networked on-site treatment system

edge. Green open space was composed of the large-scale continuity of open space (such as farmland, pastures) locating at the community periphery and the small-scale open space (such as public green space and gardens green) within community. Green network was the roads, the rivers and the green medians which connected the agricultural function space and the life functions space. Green communities edge referred to the green horizontal boundaries around the community, such as forests, rivers etc. which were used to control communities sprawl. In the vertical space, the height of the buildings were tend to be restricted by the church height in the village. It generally is not more than 10 m, also lower than the general nature tree height. In the development strength, the building floor area ratio was not greater than 0.1, the building density did not exceed 10%, the green space occupied was up to 90%. In development mode, in order to protect agricultural land and to control the towns and villages to sprawl to the green space, European countries basically took a fill-in redevelopment mode.

Cautiously advance rural residential space structure optimization: After the urbanization rate over 50% in European, many countries introduced the policy to optimized space structure of rural settlements. In Britain, for example, the British government began implementing rural “development plan” from the 1950s, in which the specific measures was to build the center village. The basic idea of building village center was to attract people

to live in the center village by improving the living environment to make the villages had the same lever on the economic, social and educational opportunities as the towns. At the same time, to implement the compact construction mode and control the spread of settlements.

Construction of rural infrastructure showed the modernization and humanization: After World War II, the majority of European countries were left undone and the rural infrastructure was lagged behind. First, they committed to addressing the rural community infrastructure technical issues and gradually formed the technical standards. These technical standards would then be transformed into rural planning and construction regulations. Rural Infrastructure construction was humanized which showed mainly in the following aspects. In the road system construction, rural community road network includes the road, the path and the street three types. The road entrances had some roadblocks and the speed was limit from 20 to 30 km. The path was one-way and the giving way sign and neighborhood care logo were put at the crossings. The gravel street was only 1~2 m and the motor vehicles were permitted on it. In the sanitation facilities construction, all toilets were urban community-based. All of the wastewater enters the household sewage system and was treated, then was discharged into village drainage system and into the wetlands; the waste was classified collection and regular centralized recycling in the rural communities (Fig. 1). In

the safety facilities, each household and the key location in rural community were provided with a hydrant. The buildings were asked to back the main road red line at least 5 m. All kinds of traffic safety facilities were set on the main road.

Rural community construction payed attention to heritage historical context: European countries had splendid history and culture. Rural community construction payed attention to heritage historical context and avoided the serious impact of the functionalist architectural thought on rural construction in period of Industrial Revolution. There buildings basically maintained the traditional architectural style and used their own architectural language and inherited their respective history visual features. So, they had national character and regional customs (Chen and Wu, 2006). On the term of the rural community residential style, the single-family house in the village still occupied 90% of the rural residential community but the style of new rows villa residence was less than 5%; 30 year old construction buildings accounted for 2/3. Although the doors had new ones, painted facade of new materials but most of the house still retained the traditional shape, scale, brick, 45-degree slope roof and attic.

Rural construction activities respected the integrity and sustainability of natural ecological processes: In the space planning, planner kept pace with the times of ecological civilization and promoted an open space network-oriented layout mode. In order to protect the plenty of fertile farmland and the natural resources, wildlife and natural landscapes, the planner started with the design open space, firstly to built an open space network and then to determine the village location and development model. Residential layout conforms to the terrain and the road goes along the direction of the natural rainwater discharge path. Village's main road was paved with asphalt or cement and the general branches were by sand or gravel pavement while the field road entirely was soil road. Community greening was given priority to with native plant, vertical layout, the whole village in three dimensional space formed a chain of green plants and realizes the diversity of natural species. On water use, rural community all life wastewater was treated by water sewage treatment system to be used for watering the garden, or discharging into the wetland, to replenish the underground water or irrigation farmland.

Rural construction diversified investment mechanism: Rural Construction required substantial capital, the form of financing is different in each country. Generally, the

roads, drainage, sanitation facilities, fire facilities etc. public infrastructure costs were basically assumed by the all levels of government. While the domestic sewage treatment system costs were borned by the user. In Germany, the government subsidies for village' update was a wide range involving almost village-building. On important natural and cultural landscape protection, the government subsidies were up to 90%. Even for green courtyard, the government also provided the value of 500 Euros for plants and green building materials. In the UK, the government attached great importance the rural economic housing subsidies. Government investment in rural construction accounted for the major part. In France, urban and rural water supply was the government's affairs.

CONCLUSION AND ENLIGHTENMENT

Rural development should reflect low carbon ecological development idea: Ecological civilization was the inevitable destination of human development (Zhen *et al.*, 2013). European countries were just in the transition period from the industrial civilization to ecological civilization, when the urbanized rate was over 50%. The ecological crisis caused by long-term industrial development had affected the survival and development of human. It conformed to the requirements of ecological civilization; rural construction in developed countries in Europe had today idyllic landscape countryside views. In Chinese, the goal of building an ecological civilization was clearly put forward in the party's congress report. SEPA (State Environmental Protection Administration) had also developed ecological county building evaluation indexes. More than 1,000 counties (cities, districts) carried out building ecological counties (cities, districts) and 1559 villages and towns built national eco-towns in China. However, the current eco-villages and towns construction put emphasis on environmental protection and remediation while the rural social and economic spatial structure, spatial distribution, rural land use, ecological ethics etc., were rarely considered.

Rural development should abide by planning and regulatory: Europe country rural construction experience told us that rural development was a huge systematic project which required planning control and guidance. In China, the long-standing lack of planning and related regulations, rural construction was basically in a disorder state. "Street village" "decaying village", "empty village" etc., issues were outstanding (Long, *et al.*, 2009). In recent years, the battle of merging townships or villages to create the new towns or villages were set off nationwide,

greatly devastated the rural spatial structure. Urgent priority was to timely adjust the rhythm of the new rural construction and adhere to the first planning and then construction. The second was to improve rural construction laws and regulations to strictly regulate rural construction activities; the third was to encourage villagers to participate in rational rural construction.

Construction of rural communities should choose compact development patterns: In order to effectively protect arable land resources, the European countries took filling pattern of development during rural construction and laid a solid foundation for European food security. China was one of the countries in which human-land conflict was most prominent. China's per capita land area and per arable land area respectively were only 35 and 43% of the world average. From 2001 to 2008, the arable land area decreased from 19.14 million mu to 18.26 million mu. The arable land red line of 18 million mu faced with severe challenges. In addition, there was an abnormality in China that rural residential land does not decrease with the level of urbanization increasing but the opposite. In 1997-2005, rural population had decreased 9633 million while the rural residential land had increased by nearly 117,500 hm². Therefore, China needs to learn from the experience of European countries, to select compact development patterns to protect arable land resources.

Rural development should first improve infrastructure: From the experience of European countries, the rural community infrastructure was the bottleneck of rural development, should take the lead to solve. At present, China and European countries biggest difference lies in building water supply and drainage systems and sanitation facilities. European countries had basically achieved a unified water supply, sewage treatment and garbage recycling, so fundamentally control sources of pollution. According to field research, it was precisely because of inadequate infrastructure to result to difficulties in rural indoor plumbing and to affect rural livelihoods improvement.

Rural construction should adhere to the characteristics and not blindly imitate city: Urban-rural integration is the inevitable trend of development. Urban-rural integration doesn't mean to change the rural to as same as urban but requires rural and urban to take differentiated and coordinated road according to their respective laws of development. Because of insisting rustic, the rural formed the livable environment where everyone aspired to and was better than the city. At present, the rural living

environment is poor generally which mainly is a low living standard caused by the inadequate public facilities, low income level of farmers but no means inferior to urban civilization (Qiu, 2008). In China, some places with urban planning concept, approach to planning to build high-rise buildings in rural countryside, not only destroyed the rural landscape and rural production and living away from the actual threat to the accumulation of thousands of rural culture and civilization. China's current urban planning concept and approach was used to plan the rural communities which threatened the accumulation of thousands of rural culture and civilization.

Government investment-led, multi-channel financing in rural construction: Rural Construction required significant capital investment, therefore it was unrealistic to solve the funding problem rely solely on rural areas own. Western countries experience shown that in the urban-rural integration phase, industry nurtured agriculture and cities financed rural areas which was the basic model but also the key to successful rural construction in European countries (Li *et al.*, 2008). In recent years, Chinese government investment in the power, roads, telecommunications, water conservancy etc., infrastructure construction was increasing but it was clearly insufficient in the rural public service facilities, sanitation facilities, ecological management, protection and other aspects of cultural investment. According to ownership and the nature of services, major investor for public project should be the central and local governments. Non-public projects should be based social capital investment, supplemented by government subsidies; Private residential protection and renovation projects should be based personal investment, supplemented by government subsidies ways.

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