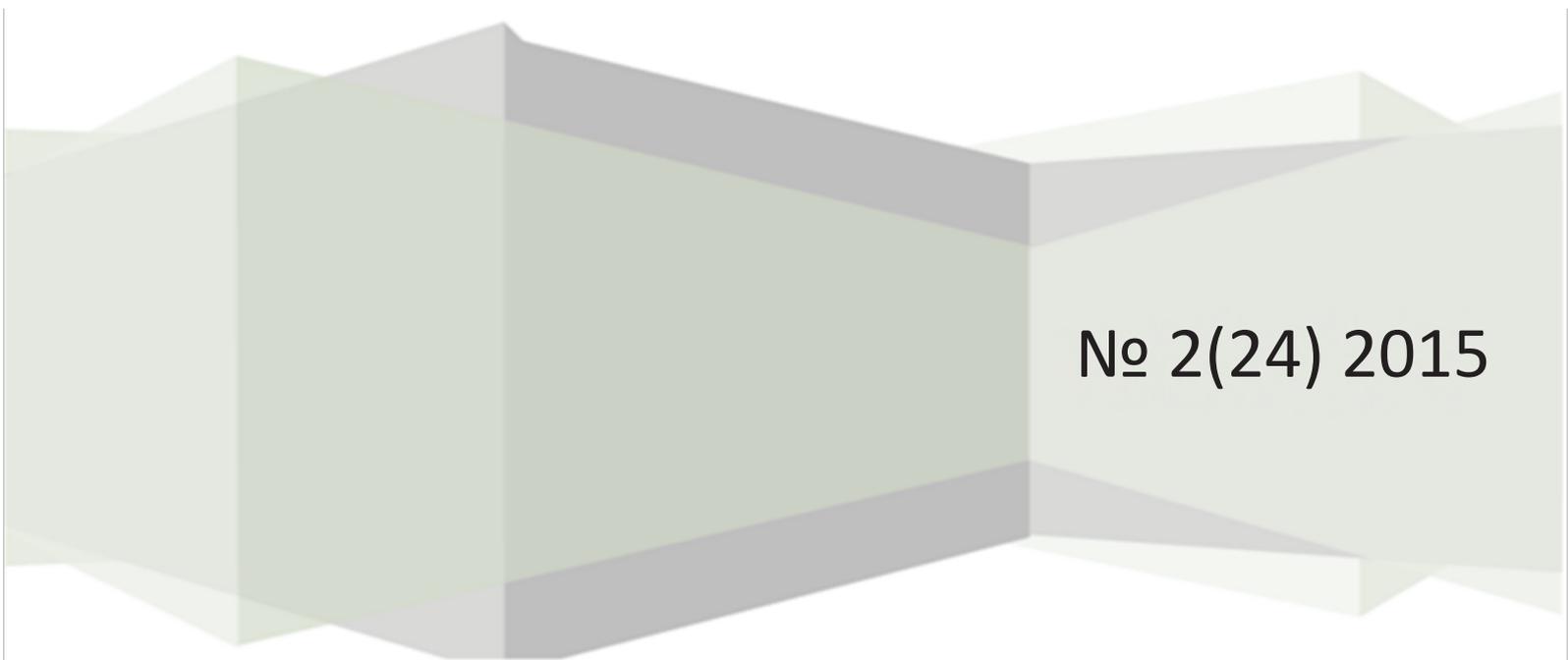


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Architectural Heritage of Northern Mountainous Settlements of Azerbaijan for Tourism Development

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Key words and phrases: nature reserve; ancient settlement; ecological reserve; architecture; monument; landscape.

Abstract: Northern region plays an important role in the study of urban planning culture in the history of settlements in Azerbaijan. Because of geographical position and good connections with the ancient caravan routes, in early Middle Ages these territories were known as places of permanent settlements with their fortified towns, large socio-religious buildings and palaces. Foreign invaders used to attack them, therefore some of them were wiped off the face of the earth, and the other part, being surrounded by the impenetrable forests and mountain streams, kept their medieval architectural appearance.

The paper analyzes architectural and landscape specifics of settlements, their historical and cultural reserves, assesses their town-planning characteristics in the context of construction standards and safety. The author discusses the possibility for developing international tourism in the region.

The urban culture of medieval Azerbaijan is known for historic and architectural heritage of its villages, which have favorable natural-climatic conditions, geographical position, relatively convenient transportation routes linking the West with the East. Located in remote places, surrounded by mountains, these settlements have preserved their original way of social life, the planning structure, and appearance of residential and public buildings. Of course, all these can make them popular tourist destinations.

The exception in this respect is Gabala city, which in the III–VII centuries of our era was the capital of Caucasian Albania, occupying almost half of the territory of Azerbaijan [1]. Due to good trade relations, availability of life-supporting facilities throughout the course of many centuries, the city was under attack by neighboring states and by the end of XI century, the city was completely destroyed [4]. The remains of building materials, coins, weapons, burial mounds, etc. found during archaeological excavations remind about the former glory of this city [2]. There is a number of mountain towns (Lagich, Khanalyg, Gusar, Sheki, Guba, etc.), which possess not only unique architectural monuments, but also peaceful natural environment (beautiful dense forests, waterfalls, national parks, etc.). In addition, these mountain villages as historical and

cultural reserves have fully preserved the identity of local craftsmen (pottery, coppersmiths, carpentry, gunsmiths, applied arts), which can attract tourists wishing to combine an active holiday with educational tourism [5].

In the past 10–15 years, these mountain settlements of Azerbaijan have been actively involved in international tourism, where considerable importance is the introduction to the history, architecture and culture of people living in the region. Many people still do not understand the degree of survival in extremely harsh natural conditions in these mountain villages, where, as paradoxical as it may sound, the level of urban development of streets and blocks and the level of existing engineering systems is quite high.

From this point of view, it is not enough to state only the fact of their preservation as sustainable residential units of rural type. Here, we should note the possibilities of rational use of their resources for educational and active mountain tourism. Such an active involvement in international tourism will not only expand the scope of their modernization and restoration of local crafts, but also it will stimulate the activity of the local population, and provide new jobs. This will give an opportunity to incorporate them with a single system of recreation and tourism of Azerbaijan.

The studied material revealed the scale of architectural, historical and cultural heritage of settlements belonging to the Bronze Age, First Millennium BC and even to earlier period, for example, the ancient states of Manna and Midia existed before our era.

Focusing on the benefits of developing tourism in Azerbaijan, one should note the increasing interest in the information about the past centuries. In this regard, this type of tourism is much more valuable than mass holidays in hotels in the resort areas of Azerbaijan, which enjoyed great popularity in the first and second half of the twentieth century.

The mountain towns, which can become popular destinations both for domestic and foreign tourists, include the towns of Gabala, Lagich and Khinalug located in the Northern region of Azerbaijan, where ski resorts have been developed in recent years (Hussars, Guba, Gakh, Gadabay, etc.) [4].

The analysis of historical and cultural heritage of Gabala confirmed that it played a huge role in the political administrative life of large settlements. In the ancient times this city was a center of economic, social and political life [1; 2]. In those days, the emergence of towns was a very complicated process, closely related to the occurrence and development of inter-town relations, which enhanced differentiation among classes, division of labor and production tools.

At the same time, ancient towns were multifunctional organisms that performed particular socio-economic, industrial and commercial functions. They were the main ideological centers of the whole region. It was Gabala town, which still has its ancient coins related to the Albanian government. The town originated through socio-economic development of the two worlds – Iranian and ancient [2; 3].

Archaeological materials and data of written sources suggest that an early class society in Albania was a slave type, which is confirmed by the writings of Pliny the Elder (I century AD) and Claudius Ptolemy (II century AD); it was mentioned that among the 29 towns in this region the main city of Albania was Gabala. Its urban processes differed from the urban planning of the ancient period; the excavation works revealed diverse construction types, funerary monuments, remains of manufacturing centers, thousands of local and imported products, coins, determining the economic level of the urban life.

The city had a palace, defensive and religious buildings. During the excavations, the remains of roofing tiles, and brick buildings were found. Streets and the territory of the yards were covered with flat stones and gravel. Particularly noteworthy are funerary monuments of Gabala

(a clay pitcher and graves). The city had many buildings of crafts and trade.

Thus, we can say that for tourists it may be interesting as a protected zone, with unique materials exhibited in local museums, and natural environment favorable for active recreation. Tourists will be able to see the remains of Albanian churches of the II-IV centuries, the burial mounds belonging to the bronze age, ancient camps and resettlement sites (II–IV century).

Lagich is another interesting town from the perspective of international and domestic tourism. This town, situated among the mountains, has long been famous for the high level of local arts and crafts (weaving, copper handicrafts, etc.) [5]. It should be noted that due to poor accessibility, the village has preserved the shape and appearance of medieval towns. It has a traditional planning structure of streets, a high level of engineering development, interesting design of houses, mosques, baths and shops. The town also retains all forms of traditional crafts and applied arts. Today, its wonderful natural conditions provide an opportunity to organize family-type hotels, which are quite common among the population of Azerbaijan.

While Gabala town is interesting for tourists for its cultural heritage, Lagich has good climatic conditions for the construction of hotels, campsites and public entertainment facilities. Its residential buildings, being generally a monument of urban planning of the late middle ages of Azerbaijan, can also be actively used in tourism [7].

In conclusion, it should be noted that northern regions of Azerbaijan have great opportunities for tourism, which should be used wisely and beneficially. Creating a holistic full-fledged travel business in the context of ethno-cultural heritage of its territories is an urgent task.

References

1. Babaev, I. Goroda Kavkazskoj Albanii (IV v. do n.je. – III v. n.je.) [Cities of Caucasian Albania (IV century BC – III century AD)] / I. Babaev. – Baku : Jelm. – 234 s. (in Russian).
2. Gejumov, F. Keramika goroda Gabala (I–IX vv.) : avtoref. kand. diss. [Pottery of the city of Gabala (I–IX centuries)] / F. Gejumov. – Baku, 1962 (in Russian).
3. Eremin, S. Torgovye puti Zakavkaz'ja v jepohu Sasanidov [Trade routes in the Caucasus during the Sassanids era] / S. Eremin // Vestnik drevnej istorii. – 1939. – № 1 (in Russian).
4. Kerimov, V. Stroitel'noe iskusstvo drevnejshih plemen i gosudarstv na territorii Azerbajdzhana [Art of construction of ancient tribes and countries in the territory of Azerbaijan] / V. Kerimov. – Baku, 2009. – 380 s. (in Russian).
5. Mamedbejli, M. Lagich. Istoriko-kul'turnyj zapovednik [Lagich. Historical and Cultural Reserve] / M. Mamedbejli. – Baku : Nurlan, 2004. – 225 s. (in Russian).
6. Sbornik spiska ohranjaemyh pamjatnikov istorii i kul'tury na territorii Azerbajdzhanskoj Respubliki [The list protected monuments of history and culture on the territory of the Republic of Azerbaijan]. – Baku, 2001. – 202 s. (in Russian).
7. Jefendizade, R. Arhitektura Azerbajdzhana [Architecture of Azerbaijan] / R. Jefendizade. – M. : Strojizdat, 1986. – 320 s. (in Russian).

Развитие туризма на фоне архитектурного наследия поселений северного горного региона Азербайджана

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Ключевые слова и фразы: заповедник; древнее поселение; экологический резерват; архитектура; памятник; ландшафт.

Аннотация: Известно, что туристов современного мира привлекает не только возможность ознакомления с архитектурными памятниками старины или отдых, но и возможность ознакомиться с флорой и фауной неизведанных краев за пределами своих стран. Иногда они предпочитают горный туризм, альпинизм и спорт на лоне природы. В этом отношении северо-западный и северный регионы Азербайджана уникальны по многим своим природно-климатическим и архитектурно-культурным показателям.

В статье более широко раскрыта большая значимость характерных исторических поселений, которые в будущем могут стать туристическими центрами международного класса. По этой причине в статье дана полная оценка их скрытых потенциалов развития.

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The Principles of Public Services Renovation in the Structure of Urban Environment of Tabriz City

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Key words and phrases: service principles; structure; environment; Tabriz; social activity; center.

Abstract: Being one of the leading trading centers of the Middle East, Tabriz city remains a business center of Iran and the fourth largest city of the Islamic Republic of Iran. Currently, the system of public service does not meet the growing needs of its population. The article features the organization of this system, its weaknesses and the need to find better methods of updating the system.

In this regard, some principles of updating are assumed: the need for preservation of historical values; evolution of the city planning; social activity of residential environment and modern transformation of service systems.

The historic city of Tabriz was one of the major centers of trade and culture of the medieval East. At the same time, it was the center of the intersection of many ancient caravan routes linking the West with the East. Developing its urban policy in the context of socio-religious and trading processes, Tabriz was fundamentally different from other cities in many aspects of city planning due to economic relations, specific climatic conditions and a strategically advantageous geographical position of the city of (Fig. 1).

Almost until the twentieth century, its city-planning policy was based on the principles of preservation of traditions of Eastern culture, including low-rise residential zones and the organization of network of services for the city [5]. In the twentieth century, it started establishing contacts with many European countries and was familiar with the practices of urban America, Western Europe, Russia, which had already seen the application of new ideas in the urban environment. There was also a more active involvement of social structures in their cultural life and development of public services, transportation, landscaping and utilities organization.

By that time, the city gradually began to determine the scope and direction of social demands, especially regarding the organization of a network of public services as an integrated system covering all functional areas of the city, similarly to many cities of Western countries.

With this revolutionary active nature of transformation of public services, the city of Tabriz as a historical center of trade was changing its spatial structure (residential, industrial) very slowly. However, the areas of existing public services, i.e. cultural, administrative, commercial, household and transport services were quite good. The reason is that this system being considered by the standards of Western countries as intuitively organized, was linked to the fundamental life

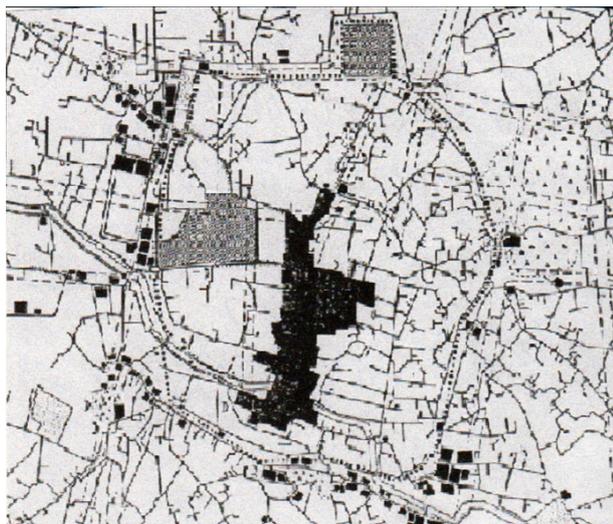


Fig. 1. Historical Bazaar in the center of the city of Tabriz

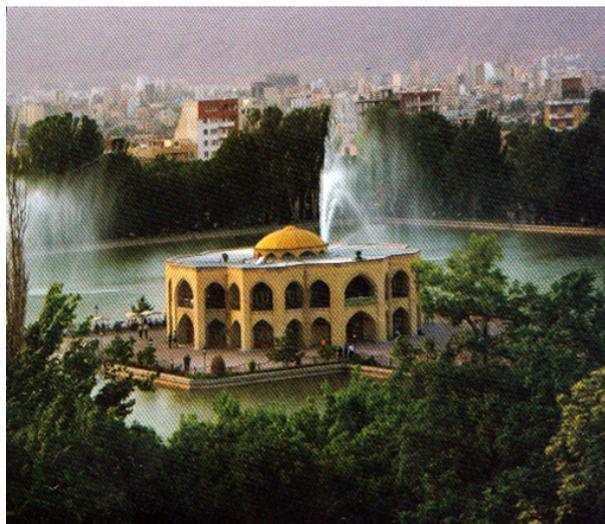


Fig. 2. Palace complex (now a Museum)

processes and suited the needs of its citizens [5].

However, socio-economic and political changes after the revolution of 1978 required the search of a more rationally organized system that could meet the changes of the urban environment. It should be noted that organized in the middle ages, the Eastern city of Tabriz and its system of public services, on the one hand, can be considered as quite advanced in operation, but, on the other hand, it had to become familiar with new ideas that emerged from architects and urban planners of America, France and other countries [3]. The rapid growth of the new multi-storey residential construction in the city, changing the strategy of utilization of productive resources of the surrounding settlements, large-scale development of local industry and external transport links, led to the need for the revision of the status of existing structures in the service system not meeting the new requirements.

However, it should be noted that a number of old ideas incorporated into the structure of the service system in the Eastern cities in subsequent decades was important and still acceptable even in conditions of transformation.

As far as the current state of the city of Tabriz is concerned, we can say that being the fourth largest city of Islamic Republic of Iran, its geographic and functional significance is enormous. While the city of Tehran is the administrative center of the country, the city of Tabriz has always been and remains a commercial business hub of the country (Fig. 2).

In this regard, it is necessary to consider the importance of maintaining its contemporary importance as a center in the urban system of the country, to define and plan new focal point in the city structure, to accommodate larger facilities and complexes of public service, presenting them as dominant elements in the city planning, business buildings, residential groups. This new spatial and architectural approach will improve today's urban environment and fill in the gaps in the existing public services. In addition, it will help to organize commercial buildings and structures in new residential areas in the North and East of the city, to determine the direction of other major outbound motorways and transport hubs, thereby enhancing its connection with other regions of the country [8].

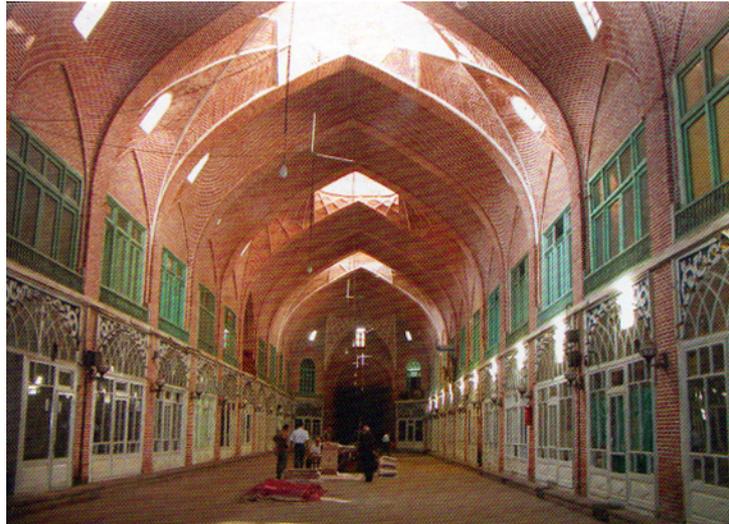


Fig. 2. A shopping center interior

Note that the social function of this service system in this city is implemented through the coupling of several types of passenger transport (rail, road, public and individual), which proves to consider accessibility as one of the leading criteria that will ensure active use of public services [7].

Over the last 20–30 years, the number of large-scale buildings, high-rise buildings in the northern, northeastern, and partly in the southern part of the city of Tabriz has increased. In this regard, it should be considered more rational to localize the sites of community services in the form of compact centers, among or between the residential complexes, which together form a modern image of the urban environment. Such territorial and spatial arrangement of all facilities in the structure of Tabriz will enable to activate new methods of their maintenance in everyday life.

Given the fact that the city of Tabriz today is one of the most popular “functional cities” of the Middle East with the traditional range of trade and consumer services, the current system can be considered only partly acceptable in the historical center. However, the array of new buildings in Tabriz, with over 60–70 % of the population is in urgent need of improving the organization of their public services [8].

In this regard, it is necessary to conduct a comparative analysis of the needs of the population of the city of Tabriz with the approaches used in the major cities of other countries (Russia, Azerbaijan, Kazakhstan) and identify the degree of availability and adequacy of forms and types of public services. However, the life itself has suggested the need for revising the existing practice of organization of three-tier system of services. For example, the organization of big shopping malls and commercial and business centers on the outskirts of Moscow is not acceptable for the city of Tabriz [6]. On the contrary, in the city of Tabriz some of these services, including retailing, residential and cultural facilities should be located directly in the living environment of new residential complexes and even partially on the first floors of residential buildings, which is in line with the traditional method of organization of services in the historic town.

Today in the city of Tabriz, most high rises are built in groups, the only exceptions are the houses built along the Mehran River, which flows almost parallel to the plan of the city. Accord-

ingly, it is possible to recommend placing these new multi-functional building among the residential complexes [1].

In this respect, People's Republic of China has made a big step forward by organizing a network of services, both in business centers of their cities and inside residential blocks, either on the roof or on the ground floors. In inter-floor spaces, it is recommended to accommodate consumer services and intermediate winter gardens [6].

It should be noted that the failure of placement of a single large object, particularly the one performing one function (for example, cinemas) was confirmed in a comparative analysis of the organization of service systems in residential areas of Baku city [7]. In the city of Tabriz, it can be recommended to have a complex systemic organization of multifunctional centers in the form of an interconnected network of services. This spatial and architectural approach can meet the requirements of the population in this area.

In addition, changes observed in recent decades in the planning structure also require updating of cultural services, but also a system of recreation due to more rational principles of transformation (Fig. 3).

On the other hand, the introduction of new technologies in the service sector and the search of new principles of organization of a network of services will enable to improve the structural and compositional solution of service facilities functionally and visually.

Mobility becomes decisive in shaping services facilities and their spatial organization in particular with a view of bringing them closer to residential areas. For example, the current trend in the development of service facilities is the desire to provide maximum flexibility in their internal spaces, i.e., by organizing service facilities inside residential buildings.

High-rise administrative and business buildings in Teheran stand out in the environment, while the construction of such buildings in residential areas of Tabriz requires a thorough analysis of its urban conditions.

Thus, the observed increase in demand for service facilities and renovation in Tabriz requires the creation of a more open and flexible framework that meets the following conceptual principles of renovation:

- 1) the need for preservation of historical values;
- 2) the evolution of the city planning;
- 3) social activity of residential environment;
- 4) renovation of service system.

The above principles of renovation of public service system in the city of Tabriz will help solve problems and other social spheres.

References

1. Abdullaeva, S. Principy obnovlenija ob#emno-prostranstvennyh struktur pribrezhnyh gorodov / S. Abdullaeva // Sbornik trudov NANA, Problemy iskusstva kul'tury. – Baku, 2012.
2. Barhin, M.T. Gorod, struktura, kompozicija / M.T. Barhin. – M. : Nauka, 1986.
3. Mahmudova, E.S. Delovye centry: tradicii i budushhee / E.S. Mahmudova // Urbanizm. – Baku : Obshhestvo urbanistov Azerbajdzhana, 2004.
4. Mustafaeva, F. Arhitekturno-planirovochnaja struktura mnogofunktional'nyh kompleksov / F. Mustafaeva // Istorija arhitektury, gradostroitel'stva i restavracii. – Baku. – 2013. – № 1(5).
5. Onulahi, S.O. XIII–XVII vv. gorod Tebriz / S.O. Onulahi. – Baku : Elm, 1982.
6. Tanaka, V.V. Gradostroitel'naja organizacija obsluzhivaniya naselenija v Vostochnyh rajo-

nah / V.V. Tanaka. – Leningrad : Strojizdat, 1984.

7. Jusubova, N.O. Obshhestvennye prostranstva i kommunikacii rekonstruiuemogo istoricheskogo goroda / N.O. Jusubova // Urbanizm. – Baku : Obshhestvo urbanistov Azerbajdzhana, 2004.

8. Hudaverdi, G. Hudozhestvenno-kompozicionnoe predstavlenie gorodskoj sredy g. Tebriz : avtoref. diss. ... kand. arhitektury / G. Hudaverdi. – Baku, 2013. – 20 s.

Принципы обновления системы общественного обслуживания в структуре городской среды города Тебриз

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Ключевые слова и фразы: обслуживание; социальная активность; среда; структура; Тебриз; центр.

Аннотация: В структуре исторического города система обслуживания всегда была полифункциональной и занимала особое положение. В данной статье раскрываются принципиальные отличия организации систем обслуживания исторического Восточного города, каким является Тебриз. Его социально-экономические и градостроительно-транспортные связи определили четыре вида функциональных услуг, опирающихся на следующие принципы: 1) принцип преемственности исторических ценностей; 2) принцип эволюционного развития процессов градообразования; 3) принцип социальной активности жилой среды; 4) принцип трансформации систем обслуживания во времени.

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The Role of Ice Storage in Traditional Architecture of Iran

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Key words and phrases: glacier; traditional architecture; composition; steadiness; architectural climatology; physical environment.

Abstract: Most regions of Iran are located in hot and arid climate, with long and hot summers. In the past, it was necessary to keep meat, dairy products and other kinds of foods fresh in hot and dry conditions of Iran. Besides, it was important to use architectural methods based on climatic conditions, local materials and with little damage to the environment. Iran's traditional architecture is largely dependent on climate and all urban spaces are protected against the atmospheric factors, such as winds, radiation and temperature. People in this region tried to develop architecture of their buildings to meet their needs and essentials. Hence, cold water was always available for people in their cities by creating ancient type of refrigerators.

The Yakhchal, being used in Iran since early times, is one of masterpieces of Iran's architecture and a sign of predecessors' intelligence in agreement with the climate. The Yakhchal is an ancient type of refrigerator. This paper describes the specifics of ancient refrigerators in Iran.

Introduction

After the industrial revolution, along with technological advances in the field of architecture, the principles of local architecture, which were based on climate and environment, were neglected. In the 1970s, along with the energy crisis, the concept of sustainable development appeared in response to the environmental crisis. The use of the terms 'sustainable development' and 'sustainability' led to the creation of 'sustainable architecture'.

Today, as environmental protection is becoming very important, sustainable development of cities and buildings by reducing the use of energy resources has caused controversy at the international level. This brings us to the need to study the methods of sustainable architecture in Iran. Architects of the past and especially Iranian architects designed buildings, which had aesthetic beauty and met environmental and climatic requirements, using unique design and features in the construction of buildings. In this article, we describe spatial and functional properties of traditional ice storages built in Iran.



Fig. 1. Dome-shaped ice storage

Iranian ice storages are an integral part of traditional sustainable architecture. The need for ice storage in hot and arid regions of Iran, with varied climatic regions has inspired the invention of ice storage.

Most territories of Iran are hot and arid regions, with temperatures reaching 40–50° C in summer. It was necessary to keep the ice and cold water for various purposes. Ice storages were one of the masterpieces of architecture in Iran. Without any complicated technology, the architects used smart and simple design methods to meet hot climatic conditions of desert areas satisfy the need for cold water and ice [7].

Architectural features of ice storages in Iran

In hot and dry regions of Iran, insufficient precipitation (rain and snow) causes changes of day and night temperatures [2]. In these regions, winters are cold and summers are very hot. In the past, the architects of Iran properly used natural climatic conditions and applied smart architectural principles in the construction of buildings, which could be cool even on the hottest days of the year. Buildings of ice storages had the shape that met the requirements of insulation and proper cooling. Fig. 1 shows the examples of traditional ice storages shaped as domes (Fig. 1) [1].

Ice storages in Azerbaijan

The largest ice storage in Azerbaijan is the Imamzadeh complex in Nakhchivan, with the length of 20 m, the width of 8 m and the height of 14 m. The arched structures were used as a cover. The smallest ice storage was built in Orovada. Today, the buildings of these glaciers are used for other purposes. In the past, in the mountainous districts of Baku there were a lot of underground ice storages [6].

Features and principles of ice storages

The purpose of ice storage is production and storage of ice in winter and its use in summer. Low temperature during the cold season, and sometimes at night, helped to produce and store ice. In the summer season, the ice from storages was used for various purposes. Fresh fruit and other products were kept in storages and could be used at any time of the year. Ice storages became a dominant part in the architectural composition of residential areas [3].

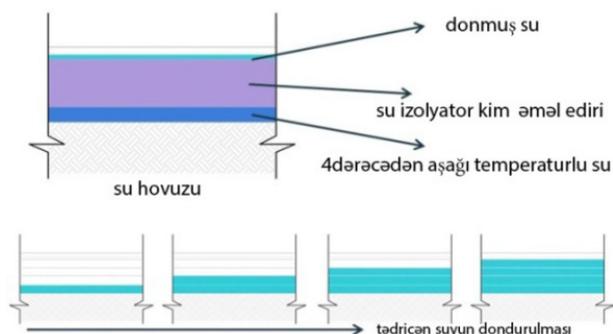


Fig. 2. The temperature in the shade of the wall is much lower



Fig. 3. The sequence of production of ice in the pool

The basic principle of the production of ice was that in winter, using the temperature of the atmosphere below zero, high walls around the land created the necessary conditions for freezing of water. At night, the temperature of the atmosphere decreases rapidly (Fig. 2). A small pool was used for the production of ice. When the water temperature reached 4° C, the water surface was covered with a thin layer of ice. At lower temperatures, the lower part of the basin was frozen. By adding water to the frozen water, it was possible to obtain a thick layer of ice. This process lasts until morning (Fig. 3) [5].

The main elements ice storages

A key element of an ice storage was a pool of water (the water pool). Ice was produced in the basins. Using portable windows, ice was transferred from the pool to the storage section. The long wall, with a height of 12 meters was built to the west-east to avoid sun light. In addition, two short walls were built around the main wall. The main function of these walls was to prevent radiation of the sun from the eastern and western sides and perform a supporting function to the structure (Fig. 4) [5].

The design of the dome of the building prevented the penetration of warm air inside the building, created ventilation inside the building, and removed the warm air out. A large container, with a depth of 6 meters was used to store the ice. Owing to the great thermal insulation of the soil, a deep container of ice helped to reduce the temperature on warm days. The standard size of this container was 8x14 m, and its depth was 6.0 meters. Two types of stairs – straight or spiral – were used to go down. A small hole was designed sewage waters under the containers (Fig. 5) [5].

Maintaining temperature in ice storages

To prevent the sun light from getting inside the ice storage, a large dome structure directly was used. On top of the dome there was a hole that let warm air out. The flow of warm air from the outside and the flow of cold air through the holes inside helped to keep cold temperatures at the bottom and save the ice. On the one hand, the main reason for choosing the shape of a dome was to create a certain architectural composition of this building, and on the other hand, the shape met the requirements of an ice storage. The thickness of the dome structure ensured a higher thermal insulation [4].

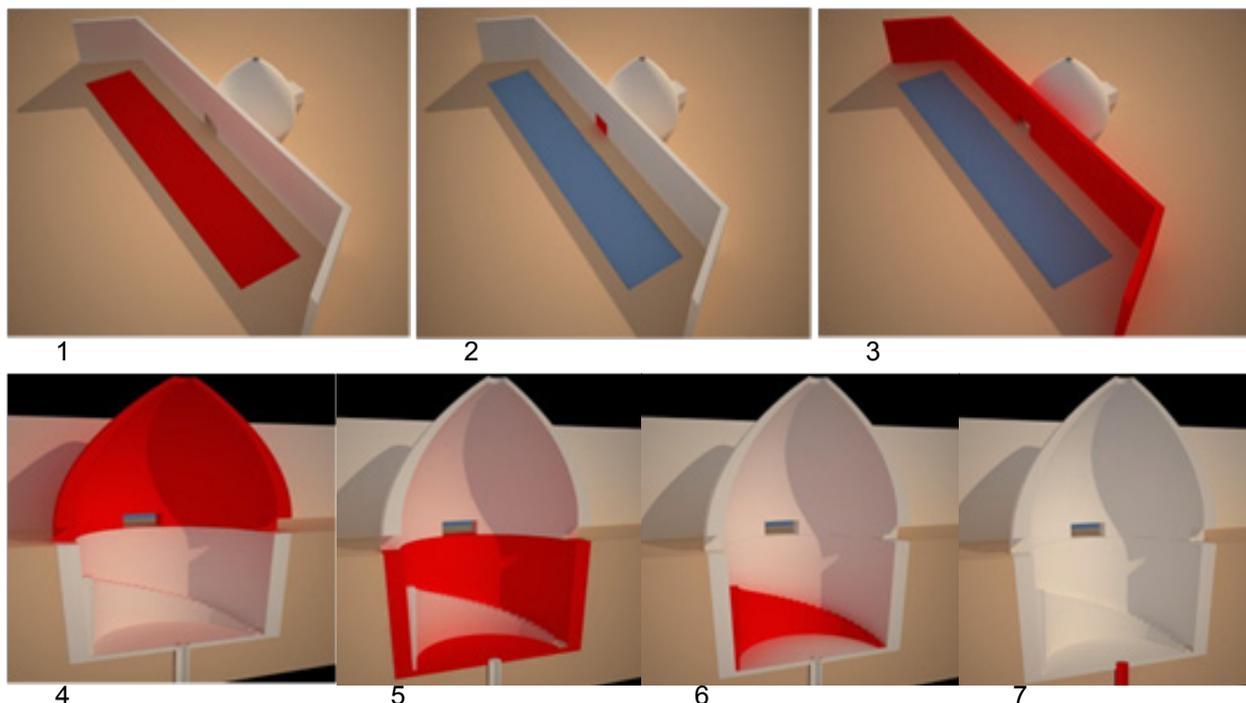


Fig. 4. Elements of ice storages:
 1 – water pool; 2 – windows for ice transportation; 3 – long wall; 4 – dome;
 5 – container for preservation of ice; 6 – stairs; 7 – sewerage

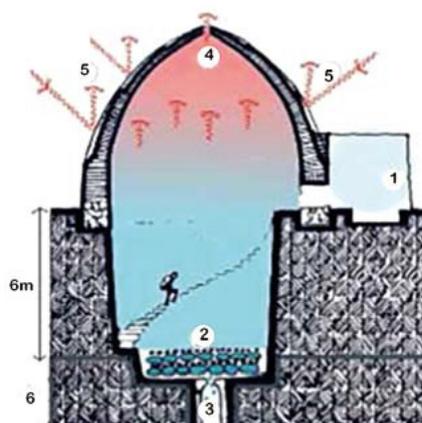


Fig. 5. Cross-section of the ice-storage: 1 – wall, 2 – container for preservation of ice, 3 – drainage,
 4 – dome, 5 – the shape of dome helps to reflect light, 6 – ground

Spatial forms of ice storages

There are three different shapes of ice storages in Iran: dome, underground, ground. A dome-shaped ice storage is a structure with a large dome on top. This kind of ice storage was widely used in Central and North-Western Iran (Fig. 6.a). Underground ice storages were built

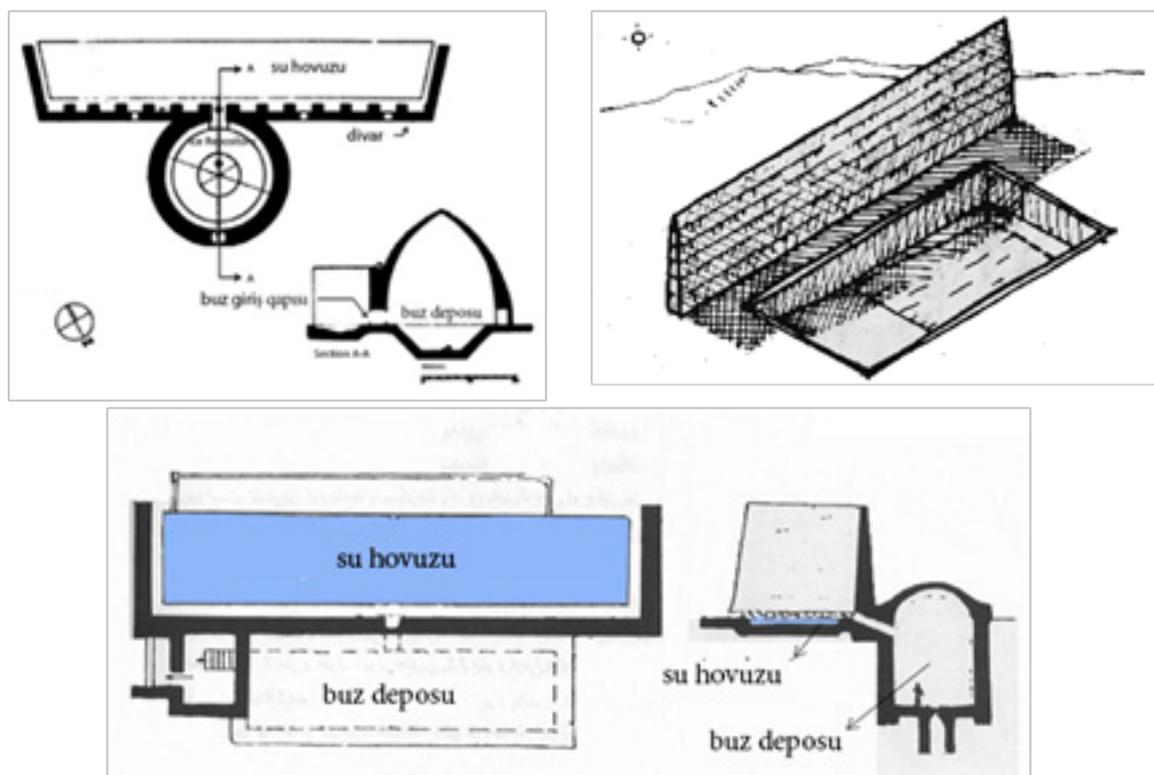


Fig. 6. Types of ice storages: a) dome-shaped; b) underground; c) ground

in central parts and in northern cities of Iran, such as Tehran, Zanjan and Sava. Despite the diversity of shapes, the functions of ice storages were the same (Fig. 6b) [1]. An ice storage without a dome was built in Isfahan. It had one wall, with a height of 4–5 meters, and 12 meters in length. At the bottom of the northern surface of the wall, there was a pool with a depth of 5–6 meters, the length of 12 meters. This type of ice storage did not have a container for storing ice [1].

Conclusion

The buildings that combined traditional architecture of Iran were designed to meet the climatic conditions of each region. These buildings were aimed at creating comfortable living environment even in the most difficult climatic conditions. The ice storages built in different parts of Iran are the most striking examples of architecture appropriate to the climate. Taking into account the influence of climatic factors on the environment, and choosing the correct shape, without any complicated technology and without the use of fuel, and in complete harmony with the environment, architects created three-dimensional compositions, which met the needs of people living in the area. The study of the construction principles of these traditional buildings are suitable for sustainable architecture these days.

References

1. Salamzade, A.V. Nahchyvanskaja shkola pamjatnikov Azerbajdzhanskoj arhitektury /

- A.V. Salamzade, K.M. Mamedzade. – Baku : Jelm, 1985.
2. Bahadori, M. Viability of wind towers in achieving summer comfort in the hot arid regions of the Middle East / M. Bahadori // Renewable Energy. – 1994. – Vol. 5(5–8). – P. 879–892.
 3. Ghobadian, V. Climatic Analysis of the Iranian Traditional Buildings / V. Ghobadian. – Tehran : Tehran University Publications, 1998. – P. 37–38.
 4. Kasmaie, M. Climate and Architecture / M. Kasmaie. – Tehran : published by the Iranian Construction-Co, 1984. – P. 8–54.
 5. Tavassoli, M. Architecture of hot arid climate / M. Tavassoli. – Tehran : published by Tehran University, 1974. – P. 38.
 6. Zandieh, M. Iranian vernacular architecture: notable example of a thermal mass / M. Zandieh, I. Khaleghi, R. Rahgoshay.
 7. [Electronic resource]. – Access mode : www.wikipedia.org.
 8. [Electronic resource]. – Access mode : www.parstourguides.ir/index.php/-association-articles/item/187.
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Роль льдохранилищ в традиционной архитектуре Ирана

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Ключевые слова и фразы: архитектурная климатология; композиция; ледник; традиционная архитектура; устойчивость; физическая среда.

Аннотация: Жизнь в районах с жесткими климатическими условиями сопровождается многими проблемами. Одной из таких проблем является хранение скоропортящихся продуктов или хранение льда для жарких сезонов. Наши предки придумали несколько способов решения этих проблем. Один из самых интеллектуальных способов, придуманных нашими предками, – это создание древнего типа холодильников для хранения льда – льдохранилищ, которые могут сохранить лед без использования какого-либо активного источника энергии. Это очень трудно себе представить, но в Иране дефицит является стимулом для вдохновения, и с давних времен население страны могло сохранять и использовать лед в яччалах в диких, казалось бы, условиях. В данной статье представлен обзор исследования разного рода льдохранилищ.

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UDK 33

Research into Funding Options for Asset Securitization in China's Green Industry

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Key words and phrases: green industry; asset securitization; funding options.

Abstract: The demand for annual investment in the green industry is increasing. In these conditions, it is very important for the development of China's green industry to expand channels of funding through market operations. The author proposes relevant development strategy on the basis of the funding options for securitized assets in the green industry.

1. Introduction

International Green Industry Association defines the green industry as the one, which bases its production process on environmental considerations; the term is also used to refer to businesses that protect the environment, businesses that recycle, limit use of fossil fuel, are very energy efficient, and use sustainably harvested wood and non-toxic alternatives.

The growth pattern of the green economy has a great demand for capital, according to the relevant planning. Experts estimate that the China's green industries have an annual investment demand of more than 2 trillion yuan (US \$ 320 billion), covering energy conservation, environmental protection and clean energy and other fields. Characteristics of green industry, including large initial capital requirements, an asset-heavy capital structure and slow returns, have further magnified the shortage of financing. Aside from fiscal and credit support policies, broadening green financing channels through capital markets is vital to the development of China's green industries. However, slow return of cash and other characteristics cause contradictions between supply and demand of funds.

China's current stage of green industry investment and financing in general is characterized by its overreliance on credit funds and financial funds; as a result, the budget can only come up with about 300 billion per year of funds, about the total investment of 10–15 %, the remaining 85–90 % need to social investment [1].

For the development of China's green industry, it is necessary to broaden financing channels through market operations. At present, China's green industry financing tool is mainly based on crediting, and project financing. It is a kind of future earnings and assets of the project as a special loan repayment source of funds and security guarantees. China's current green financing structure is dominated by government funding and government loans across various administrative levels; the financing channels for green enterprises are rather limited in comparison to other

countries. In China, small and medium enterprises are the main types of green enterprises.

Asset securitization is a profit-oriented tool, which has the advantage of not relying on financing subject's own credit status, and reducing the cost of financing, so it can be an effective tool to solve the financing difficulties of green enterprises.

Whether it is a green financing or asset securitization, it is a hot topic in China to deepen financial reform. The relevant departments have done a lot of fruitful work in guiding green financing of enterprises and developing financing instruments. Throughout the course of asset securitization in the United States and Europe, we need not imitate the assets securitized products specific operation, but should focus on the nature of the details of the control, the development of some common law of reference. First, the government-backed professional organization. It is an important force to promote the rapid development of asset securitization; secondly, determining the legal status and tax breaks is an important guarantee to promote the rapid development of asset securitization; and finally, market competition and product innovation has to match the regulations and specifications [2].

There are many in-depth studies on green financing and asset securitization, risk management and other related problems, but the research on the financing of the asset securitization in the green industry is rare. Therefore, we fully take into account the special nature of the green industry companies, while the system analyzes the green enterprise asset securitization necessity and feasibility. Based on the experience of securitization risk management, the paper puts forward the relevant strategies to carry out the green industry asset securitization.

2. The necessity and feasibility of the asset securitization in the green industry

Green financing needs to be market-oriented and sustainable, and the combination of product and service innovation in the process of building a green financial market through the asset securitization model is a useful exploration.

2.1. Necessity

For green industry asset securitization, increase in the market scale of financing, expansion of financing channels and improvement of enterprise asset management capabilities play an important role, it is the inevitable choice of financial support for green economic development.

2.1.1. Asset securitization will promote the green industry to increase the size of the market financing

The green industry is capital intensive, technology intensive and knowledge intensive, and it is more dependent on financial services. For example, in the developed countries the environmental investment accounted for 3 % of GDP to improve the quality of the environment, but in China investment in the environment protection was much lower. The total investment in the environmental protection is expected to exceed 3.4 trillion, accounting for only about 1.16 % GDP, still a big gap with the developed countries compared.

Under the current financing system for the green industry, green crediting in China's green financing structure is still the largest, but the proportion of total loans is less than 8 %, the scale is small, and there is also the phenomenon of "labeling". Because of the high risk and uncertainty, the banks lack the incentive to promote green crediting, and the financial institutions have adverse selection in the green industry financing support. In practice, although more and more

banks are willing to return the funds to return a healthy green enterprise, but the majority still focus on the larger, stronger strength of the enterprise. In investment and financing, the “Matthew effect” of the green industry is becoming more and more obvious, due to the lack of money small and medium enterprises are facing financing bottlenecks.

The existing financing tailor-made products are typical of traditional economy, but they cannot meet the needs of the green economy; lack of funds limits the size of the green economy in the capital market. Generally speaking, asset securitization is a field of structural financing, which is to get through direct and indirect financing of a channel. This feature can be effective against the particularity of green corporate finance in the process of green investment by the government-led to market financing, and meet green increased financing needs of its market-oriented investment industry.

2.1.2. Asset securitization can expand financing channels

Traditional credit and bond markets are not covered by green financing system, in addition to green credit financing, asset securitization can support the direct financing behavior based on real assets. The current China’s bond market is not developed and the contradiction is outstanding. Under the situation of the banking system’s off balance sheet business and the debt risk, the green enterprise asset securitization is very important to the strategic target of “non standard transfer target” and “reducing the financing cost of small and medium enterprises” [3]. Therefore, asset securitization has undoubtedly opened up a thoroughfare into the capital market, and enriched the path of transition between direct financing and indirect financing choice.

2.1.3. Asset securitization can improve the green enterprise asset management

Another name of enterprise asset securitization is asset management program, which provides a new space for the enterprise financing with the low level of high quality cash flow assets through the true sale of the underlying assets of green enterprises and the technology of bankruptcy isolation. Asset securitization can help enterprises realize the management of assets listed, revitalize the stock of assets, enhance the liquidity of the operating assets, reduce the investment and financing of the information asymmetry and other transaction costs, and forced enterprises to improve the quality of operations. Therefore, asset securitization has reduced the financing cost of the green economy enterprise, and has an important role in promoting the development of green economy. Asset securitization is the advanced mode of asset management, the original equity is no longer through the holding of assets, but the assets of the flow, through the management of asset collection service fees, to obtain the interest rate spread, business from the identity of the owner to serve as a service provider, to provide services and management. For the green enterprise, this financing channel is a new profit model. At present, the development of green industry in China has entered a period of rapid development, and asset securitization management will raise the competitiveness of green enterprises.

2.2. Feasibility

2.2.1. Feasibility policy

In September 2015, “the overall scheme of reform of ecological system” was published, and the strategy of establishing the green financial system was put forward for the first time. With the continuous introduction of “Atmospheric TEN”, “Water Ten”, PPP and other policies, the state

will also use common industrial and fiscal policies to guide social capital into the green industry.

On asset securitization, the current China Securities Regulatory Commission issued a series of asset securitization regulations. Therefore, the development of asset securitization and support of the development of China's green real economy is complementary. Current support of small and micro enterprise development and other hot issues can be resolved through asset securitization, Alibaba special asset management plan as issued in July 2013, based on assets of Alibaba or Taobao shop's microfinance [4]. Future development of this model will be the issuance of loans to small and medium enterprises as the basis of assets to issue securities products, in order to achieve the support of the green enterprise financing, and contribute to the transformation and industrial upgrading of China's real economy.

2.2.2. Market feasibility

China's asset securitization market is still in its infancy, but with the regulatory authorities gradually introduced to encourage the development of asset securitization market strategy, the market is showing a trend of expansion.

In late 2014, asset securitization started a "filing" system, securitization of credit assets into a pre-approval system for filing system, enterprise asset securitization explicitly as "post-filing system plus negative list management" mechanism. According to Wind statistics, in 2015, all types of asset-backed securities will reach the size of more than 249.5 billion. From the view of the market transaction and income, asset securitization products yield compared to the same rating bonds there is considerable interest rate premium. According to Wind Info data, in 2014 institutional investors generally believed that the securities of bank credit assets were higher than in the lower rating of corporate bonds [5].

2.2.3. Operation feasibility

In the long run, in China's capital market most of the green industry businesses have lower rating level, but a stable cash flow, and look forward to cheaper financing channels. The introduction of the negative list of asset securitization and PPP positive list means that the two parts of the business will be able to get a double support; asset securitization has become an important financing tool and it is feasible in the short term. Securities products issued by green industries are listed in the following table 1.

As can be seen from table, in addition to the Postal Savings Bank and the Industrial Bank of green loans, the rest are the Exchange issued corporate asset securitization products. Among them, the underlying assets are mostly utility charges and future earnings of power enterprises; sponsors of the listed green companies. With the asset securitization market capacity expansion and financial system to increase support for green financing, number and size of green corporate and securities related financing will rapidly increase, the routine of the financing of the securitization of the assets securitization of the green industry is operable.

3. Development strategy of green financing and asset securitization

3.1. Build a complete green financial system

At present, China has entered a critical period of structural adjustment and economic development mode transformation, the development of green industry and the demand for green transformation of traditional industries is increasingly strong, which makes the "green financing"

Table 1. Green industry-related securitization assets plan

No.	Project name	Sponsor	Issuers	The underlying asset	Issue size	Approval time
1	The special asset management plan of the Huaneng Lancang river water and hydropower project	Huaneng Lancang Co Ltd	China Merchants Securities	The future sales of hydropower Manwan Power Plant	20	2006.04
2	Nanjing urban construction sewage treatment fee asset to support special asset management plan	Nanjing Urban Construction Investment Holding Group	Donghai Securities	The next 4 years of sewage treatment fee income	7.21	2006.06
3	Nantong tiandian asset sales revenue to support special asset management plan	Nantong port of natural power generation company	Huatai Securities	Power sales revenue over the next three years	8	2006.06
4	Nanjing Public Holdings sewage treatment fee usufruct special asset management plan	Nanjing public holding group	CITIC Securities	Sewage treatment fee income	13.3	2011.12
5	Huaneng Lancang River Hydropower Internet access is the second part of the right to special asset management plan	Huaneng Lancang Co Ltd	China Merchants Securities	Water and electricity charges	33	2013.01
6	Post in 2013 the first phase of credit asset securitization	The postal savings bank	CITIC Trust	Henan Energy Chemical Group 300 million and 200 million in Hunan Radio and Television Media shares Loans	5	2013.03
7	Xing in 2014 the second phase of Green financial credit asset-backed securities	Industrial Bank	Industrial Trust	Green Finance Industrial Bank Loans	34.93	2014.09
8	Peace kaidi electric power on the property rights of Internet access charges special program	Kaidi Green Energy Development Co., Ltd.	Shenzhen Pingan Dahua Huitong Wealth Management Co.,Ltd.	Power station have been put into operation in the toll collection online	11	2015.06
Quasi issue	Zhonghe Technology desulfurization price gains special plan asset-backed securities	Zhejiang Zhonghe Technology Co., Ltd.	—	Desulfurization price operating income obtained in the next five years	—	—

Source: the author according to the relevant information to collate

become the new trend of financial institutions, especially the banking industry. In the formulation and implementation of financial policies, the Central Bank should be more refined, increase the intensity of support for green economy. Commercial banks should gradually begin to implement a credit risk assessment system, evaluate customers' environmental risks and corporate environmental compliance to deal effectively with credit investment business. Securities market should enhance financing of the green economy, provide support for mergers and acquisitions; encourage countries to implement the green IPO policies.

3.2. Building green asset financing platform

Promoting direct financing of green enterprises, accelerating the transformation and upgrading of enterprises, supporting the development of green industries, and vigorously promoting green industry asset securitization is very important, but if we want to achieve sustainable development in the investment and financing system, we need to do a lot of work in the market infrastructure construction.

In order to allow investors to find the lowest cost of the green investment targets, green asset financing platform is a very important part of the construction. For the construction of the platform for the green industry investment and financing it is necessary to disclose information on financial market, green rating, green index, green database, green investor network, etc. The platform will take advantage of the IT, and create a safe, stable, transparent green financial asset securitization mobile internet.

3.3. Select an appropriate incentive mechanism

Generally, the low rate of return on investment in the green industry, the single financing channel and the higher financing cost are the reasons for the shortage of investment. However, a deeper reason behind the shortage of investment is the lack of incentive mechanism to encourage green investment. Capital supervision policies and credit guarantee, the system arrangement of financial incentives and policy support for the green enterprises including small and medium green enterprises is crucial.

In terms of capital regulation policy, lending preferences should be given to small and medium-sized companies [6]. According to the "State Council on promoting the development of the industry to accelerate the development of financing", in the future the government backed financing guarantee institutions will vigorously develop to achieve the low level of financing guarantee rates.

3.4. Creating risk sharing mechanism

Combined with the development stage of China's financial markets and the characteristics of green business, priority should be given to cash flow stability, high degree of standardization and transparency of information based asset securitization; advocating simple, standardized, transparent and centralized trading of the securitization model, and stimulating the efficiency of securitization [7]. We advocate both safety and efficiency of securitization concept development. We must strengthen the supervision of asset securitization, evaluate systemic risks, and create an effective risk-sharing mechanism.

References

1. Green finance working group. Construction of green financial system in China. – China Financial Publishing House, 2015. – P. 29.
2. Jiang Guangxiang. Why asset securitization and stock market performance of cold and hot extremely way / Jiang Guangxiang [Electronic resource]. – Access mode : <http://www.mrjxw.com/shtml/mrjxw/20150909/73928.shtml>
3. Cai Esheng. Asset securitization in the secondary market need to focus on breakthrough / Cai Esheng [Electronic resource]. – Access mode : http://mp.weixin.qq.com/s?__biz=MjM5NDk0ODEwNA==&mid=400090616&idx=1&sn=0310f9eaf3e248338ec422fc94d7c198&3rd=MzA3MDU4NTYzMw==&scene=6#rd
4. Huang Yanhong. A brief analysis on the method of asset securitization products in China / Huang Yanhong, Xu Man // Bond. – 2014. – # 9. – P. 24–28.
5. Lin Hua. Chinese asset securitization operation manual / Lin Hua. – Beijing : CITIC Publishing Group, 2015.
6. Wang Yao. Innovative green financing tools to promote low-carbon development / Wang Yao, Xu Chenqi [Electronic resource]. – Access mode : <http://www.stcn.com/2015/0209/12018032.shtml>.
7. Hong Yanrong. Restart asset securitization and the development path of China / Hong Yanrong // Securities market Herald. – 2011. – # 9. – P. 4–13.

Привлечение финансирования для секьюритизации активов “зеленой” промышленности Китая

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Ключевые слова и фразы: “зеленая” промышленность; секьюритизация активов; возможности финансирования.

Аннотация: Необходимость привлечения инвестиций в “зеленую” промышленность увеличивается с каждым годом. В этих условиях, для развития “зеленой” промышленности Китая необходимо расширять каналы финансирования с помощью рыночных операций. Предложена и описана стратегия развития на основе привлечения финансирования для секьюритизации активов “зеленой” промышленности.

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Status and Trends of Agribusiness Development in Azerbaijan

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Key words and phrases: agribusiness; food security; land reform.

Abstract: Through free competition, agribusiness influences supply and demand, production intensification, use of new technologies, marketing and strategic management, aimed at increasing profits. The article discusses the status and trends of agribusiness in Azerbaijan. The author stresses that further development of agribusiness will play a major role in providing rural employment, improving living conditions, limiting migration of rural population to the city.

Significant transformation of economic, social and institutional relations was enhanced by the transition from command-administrative system of management to market relations in the economy. As a result, the dynamic development of entrepreneurship in rural areas led to the development of agribusiness.

Agribusiness is one of the significant sectors of the economy, which plays an important role in providing the population with food and raw materials. Given that $\frac{3}{4}$ part of the daily products consumed by the population is agricultural produce, this area directly characterizes the standard of living of the population.

Unlike other industries, agribusiness has specific features: land in the agribusiness sector appears as the main production means; limited land resources, resulting in the development of intensive methods; agricultural production is seasonal; dependence of agricultural production on natural and climatic conditions; the low yield of agribusiness.

The conditions for the development of agribusiness has driven the specialization of the republic in the agrarian direction. However, in Azerbaijan, in the early 1990s the economy and particularly the agricultural sector was in crisis. Violation of economic ties with the former Soviet republics, and chaos in the public administration led to aggravation in socio-political situation. In 1995 compared to 1990, production of grain decreased by 1.3 times, production of cotton decreased by two times, production of vegetables and grapes by two and four times, respectively [1].

According to Academician A.Z. Samadzade, the agricultural sector of developed countries has a high degree of security, modern technology and production facilities, which directly affects the increase of productivity and profitability. The agricultural sector of developing countries, where agricultural production plays the leading role, has primitive technology and low productivity [2].

In the 1990-s the agricultural sector of the Republic of Azerbaijan faced with environmental and technological problems.

Firstly, after the collapse of the USSR, lack of funds for land reclamation and irrigation led to salinization and erosion of lands, depletion of water sources, loss of vegetation gene pool and environmental pollution. Secondly, loss of markets, disruption of procurement processes, and economic linkages between agricultural companies, processing businesses and service sector reduced the economic efficiency throughout the agricultural production. As a result, the production of many unprofitable products resulted in higher unemployment and lowered living standards of the population. Thirdly, reduction in the solvency of economic agents in the agricultural sector complicated the introduction of new technologies. Insufficient protection of the domestic market, unprofitable production of agricultural products demotivated producers for implementing intensive technologies.

As I.H. Ibragimov notes, in the period of transition to the market economy the main challenge facing the agricultural sector of the economy was to stop the decline in agricultural production, stabilize the economy and ensure supply of food to the public and raw materials to industries. In addressing this issue, agrarian reforms, development of various forms of management, improvement in the use of production and economic potential of the agricultural sector played the main role was [1].

The basis of initial reforms was laid in 1995, when the law "On principles of agrarian reforms" was adopted. Later in 1996, the law "On land reform" was adopted. In general, in the following years, numerous normative legal acts, the purpose of which was to implement the transition to a market economy, were adopted.

The reforms resulted in privatization of the agrarian sector, but agricultural production was subordinated to the requirements of free market conditions. The agrarian reforms in addition to increased agricultural production influenced the of agribusiness structure. Today, approximately 99% of agricultural products is produced in the private sector. Agrarian reforms had a significant impact on the agribusiness sector. It is clear that further development of agribusiness will play a major role in providing rural employment, improving living conditions, and limiting the migration of rural population to the city.

The statistics show the share of the agricultural sector in the national economy [3]. Livestock is an important sector of agriculture. In rural areas of the Republic of Azerbaijan, each 100 family farms account for 226 heads of cattle, 109.5 cows and buffalo cows, and 697 sheep and goats. Livestock production is increasing every year. This, primarily, is due to the improvement of breeding cattle. For example, farmers imported 1,143 breeding stock from Germany through leasing agreements. On average, each breeding stock produces 25-37 kg of milk.

Currently, there are 75 dairy farms, 18 meat-processing enterprises and 26 industrial poultry farms in Azerbaijan.

Crop production is becoming of particular importance. Because of the agrarian reforms, agriculture began to develop at an accelerated pace, and the production of food products per capita increased. During the reforms, crop production underwent some serious changes. The food supply balance has changed towards surplus. The annual need of the population in potatoes, vegetables and melons, fruits is supplied by domestic production; export opportunities are also expanding. At present, the priority directions in plant growing of the Republic are grain, cotton, vegetables, potatoes, fruit and grapes; in the livestock the preference is given to cattle, sheep and poultry.

Raw cotton, tobacco, new potatoes, vegetables and fruits have a significant share in agricultural exports of the republic. As a result of transformation of the old and construction of new processing enterprises, the exports of canned vegetables and fruits, juices, alcoholic beverages and sugar have increased.

Currently, there are 80 enterprises for processing fruits and vegetables. The production ca-

capacity of the existing facilities allows producing up to 750 million canned fruits. Azerbaijan is self-sufficient in the production of canned fruits and vegetables. About 70 % of canned products is exported to the CIS countries and Europe.

In Soviet times, Azerbaijan imported 100 thousand tons of potatoes every year. In 2008, 60 districts of the republic, where the needs of the population was 337 thousand tons, produced 1077.1 thousand tons of potatoes, which exceeded the population needs by 3.2 times. In the same year, 86.4 thousand tons of potatoes was exported.

In the republic, there are more than 30 wineries. The need of the population in the wine products is 1 million deciliters. By the end of 2015, wine production is expected to reach 3 million deciliters, 2 million deciliters of which can be exported.

As you can see from the analysis of the statistics, in general, the main types of agricultural products and livestock products have increased. However, the prices are increasing. This is because of the growth of production costs and the growth of monopolies in the food market. Under these conditions, further production will be reduced and the domestic market will not be adequately supplied with domestic agricultural products. Besides, it will cause the growth in the import of products, as domestic agricultural producers cannot compete with foreign ones. This will eventually result in the problems in ensuring national food security.

References

1. Ibragimov, I.H. Organizacionno-jekonomicheskij mehanizm agrarnyh reform [Organizational-economic mechanism of agrarian reforms] / I.H. Ibragimov. – Baku : Elm, 1998. – 168 s.
2. Samedzade, Z.A. Mirovaja jekonomika. Kitajskoe jekonomicheskoe chudo [World economy. The Chinese economic miracle] / Z.A. Samedzade. – Baku, 2001. – 317 s.
3. Statisticheskie dannye Azerbajdzhana [Statistical data Azerbaijan]. – Baku : Gosudarstvennyj komitet po statistike Azerbajdzhanskoj Respubliki, 2015. – 804 s.

Состояние и тенденции развития агробизнеса в Азербайджане

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Ключевые слова и фразы: агробизнес; продовольственная безопасность; земельная реформа.

Аннотация: Агробизнес посредством свободной конкуренции влияет на формирование спроса и предложения, интенсификацию производства, внедрение новых технологий, маркетинга и стратегического менеджмента, направленных на конечный результат – получение прибыли. В статье рассматривается современное состояние и тенденции развития агробизнеса в Азербайджане. Показывается, что дальнейшее развитие агробизнеса будет играть основную роль в обеспечении занятости сельского населения, улучшения его жизненных условий, ограничении миграции сельского населения в город.

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Developing Regional Expansion Strategy in Conditions of Regionalization

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Key words and phrases: regional development strategy; regionalisation; distance factors.

Abstract: The author explores the problem of developing regional strategy in conditions of regional integration and intra-regional trade flows throughout the world. The author focuses on the importance of distance factors, their influence on expansion decisions and antecedents that influence both the choice of the region and entry mode selection. The study revealed the necessity of research into a great number of factors, both at the level of the company and that of local and new markets that directly affect the firm's decision on regional expansion.

The current trends of competing regionalization and globalization approaches in the economic theory to develop strategic plans for firms' expansion, and recently increasing trend of intra-regional trade flows worldwide have created conditions requiring greater and better understanding of the issues of strategic planning for firm's regional expansion.

With the recent emergence of a regional rather than international perspective on trade, regional linkages and regionalisation may provide an opportunity for firms planning expansion to access new sources of growth benefitting from increasing regional integration. Currently, increasing regionalisation is promoted at international and supra-national levels by the World Economic Forum, World Trade Organization and at investment and capacity building level where it is supported by such international financing institutions like the World Bank and Asia Development Bank. These efforts culminated in recent proliferation of Free Trade Agreements (**FTA**), mega-regional FTAs, Regional Trade Agreements (**RTA**), bi-lateral agreements. Currently, only Asian countries achieved the total number of 225 FTAs in force and under negotiations [1]. The total number of 250 Preferential Trade Agreements (**PTA**) have been signed by WTO members and are in force, and 30 new PTAs are under negotiation [2]. The number of RTAs in the world reached 612 in 2015, with 409 of them being in force [3].

As a result of such a prolific multilateral liberalisation at a regional level the share of intra-regional trade flows increased in most of the world regions in the past decade (Fig. 1). This marked increase is especially pronounced for emerging markets, with East Asia and MENA reaching the highest values.

As world trade flows indicate, new emerging poles of business growth in Asia have led to significant shifts in the share of world GDP by leading economies in the past decade (Fig. 2). This trend supports importance of attention to regionalisation and regional integration as some

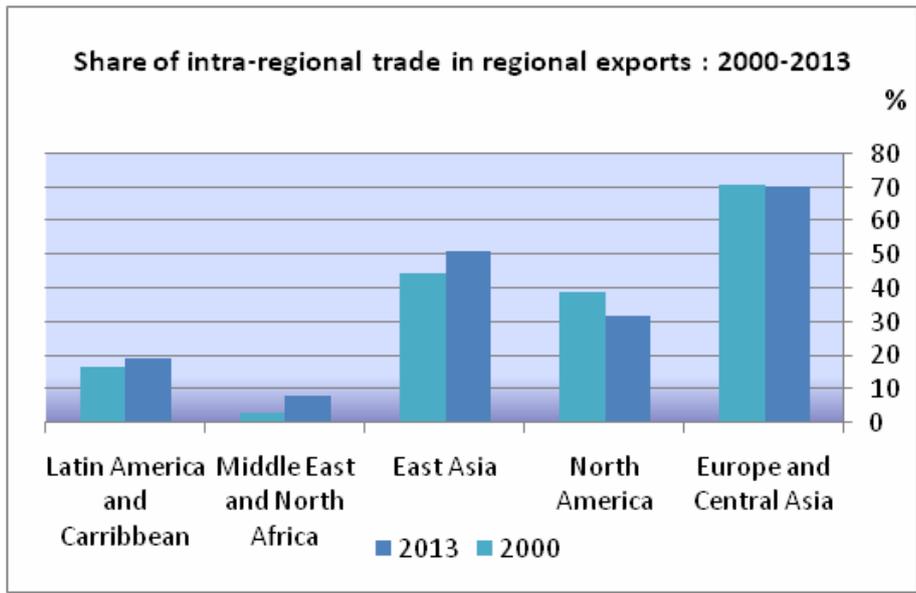


Fig. 1. Share of intra-regional trade in regional exports: 2000–2013

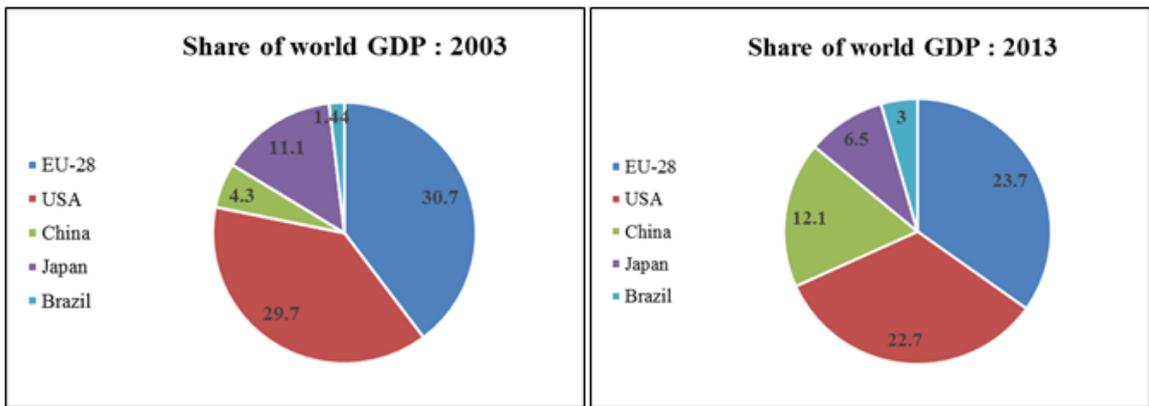


Fig. 2. Share of world GDP: 2003–2013

regions like EU-28 are rapidly losing its share of world GDP in favour of China and Brazil – countries located in fast developing and regionally integrating Asian and Latin America regions.

Nevertheless, in spite of significant regional integration effort in the past decade, regions of the world maintain their unique socio-economic characteristics and guard their cultural heritage. Such multiple distinctive differences both between and within regions themselves led to studies in economic theory of a distance factor – a key difference between home market and a host region that impact future success of firms in the new market. This factor was further subdivided by researchers into cultural, institutional, cognitive and normative (regulative) distance [5; 6].

Specifically, influential cultural distance country index was introduced by G. Hofstede [7] that consisted of four parameters: power distance, uncertainty avoidance, masculinity/femininity and individualism. Later the scholar added two more dimensions based on his further research: pragmatism and indulgence.

Recently it has been demonstrated by several empirical studies that the distance factor could be one of key decision variables for companies planning their regional expansion. P. Karhinen and S. Ledyeva attributed the impact of institutional distance to entry mode selection and ownership strategies choice for a new foreign market where a firm will choose a full ownership for a new entity if cognitive distance from its home market to the target market country is high [8]. However, these studies were limited by addressing only a particular region, like Russia. Studies of De Salles Vance et al of institutional distance focused on a specific industry sector like retail franchising expansion of Brazilian firms [9] and established that the impact of cultural distance for their expansion into new regions and countries was not significant, while the share of Brazilian expat population in the target markets was.

A study of Spanish franchise system expansion to Latin American region undertaken by V. Baena and J. Cerviño demonstrated that a positive correlation exists between cultural distance and franchise diffusion. It could explain the entry mode selection decision to adopt a low-ownership franchising model as it is 'transferring responsibility' to local partners who are able to address all challenges of different cultural dimensions of the foreign market [10]. However, this study provided mixed results as its findings did not support Hofstede's cultural distance construct, and the authors argued that its dimensions may not be applicable to international franchising expansion of Spanish retailers to Latin American region.

The recent studies of international expansion by O. Kuivalainen et al of expansion patterns of small and medium-size enterprises introduced a new decision factor for firms planning regional expansion: the timing of international expansion during the lifecycle of a firm [11].

In spite of a recent body of international research, focusing on distance factor and dynamic factor of timing for expansion strategies, there is still lack of studies including all key decision factors for firm's regional strategy development. In our opinion this stems from a large number of variables required as an input to develop regional development strategy: at the level of a firm, product, home market and host market.

Given the increasing importance of regionalisation subject on business and political agendas and accelerating pace of regional integration, it is recommended that future research could contribute to analysis of key determinants of success for regional strategy development.

References

1. Free Trade Agreements, Asia Regional Integration Center. – Asia Development Bank [Electronic resource]. – Access mode : <https://aric.adb.org/fta-all>.
2. Lejárraga, I. Deep Provisions in Regional Trade Agreements: How Multilateral-friendly An Overview of OECD Findings / I. Lejárraga. – Paris : OECD Publishing. – 2013. – Vol. 168.
3. Regional Trade Agreements – World Trade Organization [Electronic resource]. – Access mode : https://www.wto.org/english/tratop_e/region_e/region_e.htm.
4. The EU in the World 2015 // Eurostat // Annual report for 2015 –The European Union.
5. Kulik, N.V. Regional'nye strategii razvitija: teoreticheskie aspekty issledovanija (Regional development strategies: theoretical aspects of studies) / N.V. Kulik // Perspektivy nauki. – Tambov : TMBprint. – 2015. – № 10.
6. Kulik, N.V. Institucional'naja udalennost' i ee rol' v razrabotke regional'noj strategii razvitija (Institutional distance and its role in regional strategy development) / N.V. Kulik // Nauka i biznes: puti razvitija. – M. : TMBprint. – 2015. – № 10.
7. Hofstede, G. Cultural distance country scores / G. Hofstede [Electronic resource]. – Access mode : www.geert-hofstede.com.

8. Karhinen, P. Institutional distance and foreign ownership strategies / P. Karhinen, S. Le-dyaeva // ETSG 2009 Rome Eleventh Annual Conference, 10–12 September, 2009.
9. De Salles Vance, P. Internationalization of Brazilian Franchisors: A Psychic Distance Per-spective / P. De Salles Vance, T.A. Brashear, D.M. RomeiroKhauaja // ANPAD : Working paper for the XXXV meeting 4–7 September. – Rio de Janeiro, 2011.
10. Baenaa, V. Identifying the factors driving market selection in Latin America. An insight from the Spanish franchise industry / V. Baenaa, J. Cerviñob // Procedia Social and Behavioral Sciences. – 2011. – Vol. 24. – P. 340–350.
11. Kuivalainen, O. Internationalization patterns of small and medium-sized enterprises / O. Kuivalainen, S. Sundqvist, S. Saarenketo, R. McNaughton // International Marketing Review. – 2012. – Vol. 29. – Issue 5. – P. 448–465.

**Региональная стратегия развития
в условиях усиливающейся регионализации**

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Ключевые слова и фразы: стратегия регионального развития; регионализация; факторы дистанции.

Аннотация: Статья посвящена рассмотрению теории разработки региональной стратегии развития фирмы в условиях углубляющейся интеграции мировых регионов и увеличения внутрирегиональных торговых потоков. Выделяются и описаны тенденции, характеризующие усиление регионализации. Проанализированы факторы, влияющие на решения фирмы об экспансии и предпосылки для выбора нового региона. Проведена сравнительная характеристика ряда исследований по тематике фактора дистанции. Выделяются и описываются факторы дистанции между локальным и новым рынком, предлагаемые для выбора конкретного региона. Выявлена и обоснована необходимость исследования наибольшего количества факторов как на уровне фирмы, так и локального и нового рынков, непосредственно влияющих на решение фирмы о региональной экспансии.

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UDK 33

Marketing Assessment of Company Competitiveness

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Key words and phrases: competitiveness assessment; competition strategies; competitive advantage; competitiveness indicators of strategic business unit (**SBU**); competitive status of strategic business-units (**CSSBU**).

Abstract: The article describes a method of assessing company competitiveness aimed at identifying strengths and weaknesses of its divisions and the company as a whole by all areas of management.

A strategic analysis of the company competitiveness is crucial for making management decisions regarding the choice of a competitive strategy. The proposed method enables to determine the advantages and disadvantages of the company in comparison with its competitors, draw conclusions, develop a successful competitive strategy and sustain its competitive advantages. Assessment of the company competitiveness is an integral element of any business.

Methods of assessing the competitiveness of the company allows identifying strengths and weaknesses of its units and the company in all functional areas of management. The technique is based on the competitiveness indicators of strategic business unit (**SBU**) for typical competitive fields. We propose to assess the effectiveness of strategic units by its functional areas of management in relation to competitors, namely the production system, marketing, financial management, innovation and HR management. The integration of all areas of management in a single unit is achieved by determining the integral index of competitiveness of the unit.

Thus, the calculation of the competitiveness index involves determining the effectiveness of the functional management areas based on a survey of experts and their ranking in the overall competitiveness index of the analyzed units, which is determined by the formula:

$$CC\ SBE_i = k_1Ep_i + k_2Ef_i + k_3Em_i + k_4Ehr_i + k_5Ei_i,$$

where Ep , Em , Ef , Ehr , Ei are the efficiency of production, marketing, finance, human resources, innovation, respectively (determined by expert way; numerically equal to from 0 to 1); k_{1-5} are weight coefficients of indicators (determined by expert way; numerically equal to from 0 to 1); $CC\ SBU$ – competitive status of the strategic business unit.

If the $CC\ SBU$ is higher than that of all the competitors, the company is a leader in this field.

If the $CC\ SBU$ is lower than that of one or two competitors, it has a strong position in the market and the enterprise management system is operating satisfactorily.

If the $CC\ SBU$ is lower than the average value in the market, the level of competitiveness of strategic business units is unsatisfactory, and it calls for urgent measures to increase the ef-

iciency of the most important functional areas of management.

The calculation of the integral index of competitiveness for the whole enterprise is based on the summation of the competitiveness indicators of strategic business units with different weights, reflecting the importance of the competitiveness of a unit in the overall competitive strategy of the enterprise.

The results of this analysis help to identify areas that should be integrated with the company development strategy. In turn, the analysis of domestic companies and assessment of their prospects in the market made it possible to identify the following three main strategies for their development.

1. The strategy of integrated growth, i.e. acquisitions of smaller market players. This strategy allows for economies of scale and thus gaining a competitive advantage in costs and prices of goods. In addition, sufficient production capacities allow expanding the assortment of manufactured products and reducing the level of competition in the industry.

The prerequisite for the implementation of this strategy is the efficient financial operations of the company for acquisitions. In order to succeed, the company has to have an effective production system.

2. The strategy of contract manufacturing. For the implementation of this strategy, a company must have an effective production system, high quality management personnel and well-developed sales structure, which in turn is a marketing tool. Using this strategy, companies achieve advantages in quality and reduce costs due to economy on innovation.

3. The strategy of innovation. This is the most complicated strategy. It involves the development of the company through investment in design ideas aimed at the development of competitive products on a global scale. Companies need to develop partnerships with foreign companies and 'borrow' their technology on primary production.

The prerequisite for the implementation of this strategy is effective company performance in all functional areas of management, as neither of these functions (production, marketing, innovation, personnel, finance) can be fully outsourced.

Application of this strategy allows companies to realize a number of competitive advantages, which are primarily associated with the differentiation of products from competitors in quality and consumer properties, expanding the range and accessing new markets, including foreign ones.

The proposed method allows making administrative decisions on the formation and implementation of effective development strategies of domestic companies based on a comprehensive analysis of their strengths and weaknesses in the functional areas of management. In conditions of economic crisis, these strategies are of special importance for the regional and national economy of Russia.

A strategic map of a company can include the following features:

- formulation of specific and measurable strategic goals;
- assessment of the effectiveness of management decisions from the perspective of their influence on the value of the business and other financial and economic indicators;
- monitoring of the changing dynamics of the most important for the company economic indicators, and taking into account these indicators to assess the company performance;
- making effective management decisions depending on the prevailing trends of the indicators.

The proposed method of assessing the company competitiveness enables to compare the company performance with that of the rival companies and make efficient management decisions regarding the choice of the company's strategy. It takes into account the company's

strengths and weaknesses and allows for correction of the development strategy.

References

1. U Suncze. Marketingovj analiz konkurentosposobnosti OAO «Pigment» (Marketing analysis of competitiveness of Open Society "Pigment") / U Suncze // Nauka i biznes: puti razvitija. – M. : TMBprint. – 2011. – № 4.
2. Voronkova, O.V. Formirovanie regional'noj koncepcii upravljenja kachestvom produkcii i uslug (Formation of a regional concept of quality management of products and services) / O.V. Voronkova. – Tambov : Izd-vo Tamb. gos. tehn. un-ta, 2006. – 77 s.

Маркетинговая оценка конкурентоспособности компании

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Ключевые слова и фразы: оценка конкурентоспособности; стратегии конкуренции; конкурентноу преимущество; показатели конкурентоспособности стратегической бизнес-единицы (**СБЕ**); конкурентный статус исследуемой стратегической бизнес-единицы (**КСП СБЕ**).

Аннотация: В данной статье представлена методика оценки конкурентоспособности компании, которая позволяет выявлять сильные и слабые стороны подразделений и предприятия в целом по всем функциональным областям управления.

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