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ANNUAL LIFE CYCLES OF THE RURAL POPULATION LIVING IN VARIOUS NATURAL-ECONOMIC ZONES OF THE NAVOI REGION

Abstract. *The territory of the Navoi region is characterised by significant heterogeneity of natural and economic conditions and the lifestyle of the rural population determined by them. The territory of the region is divided into three large natural and economic zones: the irrigated agriculture zone, the desert-pasture livestock farming zone, the rainfed agriculture zone and the foothill-mountain-pasture livestock farming zone. The article describes the annual cycles of the rural population of all three natural and economic zones of the region, studied by the author in the process of field socio-geographical observations and interviews with local residents in 50 rural settlements of different districts and natural and economic zones of the Navoi region. The annual life cycles are compiled as a sequence of traditional economic and household activities of the rural population in the context of seasons and months. These social and everyday life cycles are associated with the main areas of economic activity of the rural population - irrigated and dry-fed agriculture, distant-pasture livestock farming, seasonal natural and climatic rhythms of different areas of the region, ethnocultural traditions of Uzbeks, Kazakhs, Karakalpaks, Tajiks, who make up the majority of the rural population of different natural and economic zones of the Navoi region. Findings reveal distinct seasonal patterns in agricultural labor*

Key words*: lifestyle, natural and economic zones, desert-pasture livestock farming, irrigated agriculture, dry farming, foothill-mountain-pasture livestock farming, annual life cycles.*

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ГОДОВЫЕ ЦИКЛЫ ОБРАЗА ЖИЗНИ СЕЛЬСКОГО НАСЕЛЕНИЯ РАЗЛИЧНЫХ ПРИРОДНО-ХОЗЯЙСТВЕННЫХ ЗОН НАВОИЙСКОЙ ОБЛАСТИ

Аннотация. *Территория Навоийской области характеризуется значительной неоднородностью природно-хозяйственных условий и определяемого ими образа жизни сельского населения. Территория региона делится на 3 крупные природно-хозяйственные зоны: зону орошаемого земледелия, зону пустынно-пастбищного животноводства, зону богарного земледелия и предгорно-горно-пастбищного животноводства. В статье описываются годовые циклы образа жизни сельского населения всех трёх природно-хозяйственных зон области, изученные автором в процессе полевых социально-географических наблюдений и интервью с местными жителями в 50 сельских населённых пунктах разных районов и природно-хозяйственных зон Навоийской области. Годовые циклы образа жизни составлены в виде последовательности традиционных хозяйственных и бытовых занятий сельского населения в разрезе времён года и месяцев. Эти социально-бытовые циклы связаны с основными направлениями хозяйственной деятельности сельского населения – орошаемым и богарным земледелием, отгонно-пастбищным животноводством, сезонными природно-климатическими ритмами разных районов области, этнокультурными традициями узбеков, казахов, каракалпаков, таджиков, составляющих большинство сельского населения разных природно-хозяйственных зон Навоийской области. Результаты показывают различные сезонные модели в сельскохозяйственном труде*

Ключевые слова: *образ жизни, природно-хозяйственные зоны, пустынно-пастбищное животноводство, орошаемое земледелие, богарное земледелие, предгорно-горно-пастбищное животноводство, годовые циклы образа жизни.*

Introduction and problem statement. Uzbekistan's rich history demonstrates the long-standing development of the Uzbek people's distinctive democratic customs, culture, and lifestyle. Since ancient times, issues related to daily life, family ceremonies, and various public events in the East have traditionally been resolved within the community. The daily lives of the population were organised around collective relationships based on kinship, neighbourhood ties, and mutual assistance, ensuring stable communal bonds.

In this regard, it is important to emphasise the relevance of studying the life cycles of the population in one of Uzbekistan's major regions – the Navoi region – from a geographical perspective. Although certain changes have taken place in the lifestyle and social life of the population in recent years, the annual and daily life cycles of the rural population have been preserved to a significant extent. Seasonal and daily activities, family life, children's moral upbringing, and the organisation of public events still rely on close-knit neighbourhood relations, which continue to shape the region's social fabric.

Historically, the population of the Navoi region has formed distinct settlement patterns based on economic-cultural types: urban and rural communities associated with sedentary lifestyles, rural communities in piedmont and foothill zones, and nomadic-type communities engaged in desert-pasture livestock breeding. These differences are reflected in local customs, rituals, and family life, indicating geographical variations and unique cultural characteristics. This makes it essential to carry out a study that takes into account the specific features of the region's annual rural lifestyles.

Study of the problem. The lifestyle, standard of living, quality of life, and living conditions of the population in Uzbekistan have been initially studied in the works of O.B. Ata-Mirzaev [1; 2], M. Mamajonov [6], M.I. Nazarov [7; 8], Z.N. Tojieva [7; 9], A.S. Soliev [10; 11], I.R. Turdimambetov [13], A.A. Kayumov [1; 2; 17] and P.T. Khudaybergenova et al. [15]. These scholars mainly focused on the problems of the population's living standards during the pre-independence period.

Additionally, researchers such as N.K. Komilova [5], N.U. Komilova [4], R. Ballieva [3], A.P. Umrzokova [14], N.U. Urinboev [16] and A.R. Tagaev [12] made significant contributions to indirectly studying the influence of population lifestyle on socio-economic and demographic development.

However, it should be acknowledged that large-scale, specialised scientific studies dedicated to the annual regional characteristics of the population's lifestyle have not yet been conducted in our republic, including in the Navoi region.

Aim and objectives of research. The primary objective of this study is to identify the annual livelihood cycles and the regional disparities in the lifestyle of the population in the Navoi region based on field research. In line with this objective, the study aims to describe the condition of annual cycles in the studied areas and their significance in shaping the population's way of life.

Materials and methods. During the preparation of this article, various scientific research methods such as comparative geographic analysis, synthesis, and field observation were employed. The author conducted field research that was specifically designed to gather the primary data. This part of the research is based on data gathered from settlements in Khatirchi district (*Kattasoy, Chagirkol, Angidon, Moydonsay, Uchkora, Tasmachi, Madaniyat, Koksaroy, Kosim Rakhmatov and Zarafshan farming communities*), Kiziltepa district (*Zarmitan, Khojibibi, Azizobod, Manzilobot, Rovot, Uzulishkent, Okoltin*), Karmana district *(Ayranchi, Azamat, Kumushkon),* Navbakhor district *(Duldul, Arabsaroy, Arabkhona, Armijon, Vomitan, Uchtut, Saroy),* Nurata district *(Dungalak, Yangibino, Yangikhayot, Jarma, Soykechar, Popanay, Chuya, Kokcha, Suvlik, Sovukbulok, Moduvot),* Tomdi district *(Boymurot,*

Suketti, Ajriqti, Oyokkuduk), Konimekh district *(Yangikazgan, Shurkul, Terikuduk)* and Uchkuduk district *(Jetpisboy, Mingbulok, Sholkor)* (see Figure 1).



Figure 1. Locations of settlements in the Navoi region where the author conducted field observations aimed at studying the regional characteristics and disparities in the population's lifestyle

Interviews conducted with residents of these villages revealed that traditional economic activities vary by season. These practices are closely linked with the natural environment-primarily with seasonal climate and weather changes. As a result, annual cycles of traditional rural lifestyles have developed. To model these livelihood cycles, the author collected information from local informants regarding which household and economic activities are typically undertaken during each season and month, the reasons and purposes behind these activities, and how natural conditions and ethnic culture influence them. These findings were systematised and generalised to construct annual livelihood cycles for rural communities across different parts of the Navoi region.

Results and discussion. In the Navoi region, three main natural-economic zones with distinct livelihood characteristics were identified:

1. *Desert-pasture livestock zone* includes the Kyzylkum desert areas in Zarafshan City, Tomdi, Uchkuduk, Konimekh and Nurata districts, as well as the Karnobchul desert in the south of Kiziltepa district.

2. *Foothill and mountain-pasture livestock & dryland farming zone* includes the mountain and pasture areas of Gozgon city, Nurata, Navbakhor, Karmana and Khatirchi districts.

3. *Irrigated farming zone* includes irrigated lands in Navoi city and Khatirchi, Navbakhor, Karmana, Konimekh and Kiziltepa districts.

The population's lifestyle manifests through both daily and annual activity cycles. Therefore, this study provides a detailed account of how these cycles unfold in each natural-economic zone of the Navoi region.

Desert-pasture livestock zone. The annual livelihood cycles of residents in this zone are notably distinct from other regions due to their specialisation in livestock breeding. Camel herding plays a particularly significant role in the lifestyle of these communities. For example, in this area, women typically begin their day with the milking of camels.

Milking camels can take from half an hour to two hours depending on the number of camels. Various dairy products such as *shubat* (fermented camel milk) and *ayran* are made from camel and cow milk[5]. During the expedition, certain transportation issues were observed in rural settlements – for instance, it takes almost a whole day to travel to and from the regional centre. To efficiently utilise their time, residents of villages specialised in camel herding deliver their handmade dairy products like *shubat*[6] and *ayran* to consumers in Navoi and other major cities using affordable transportation, primarily buses.

In desert-pasture zones, households raise varying numbers of camels – from 2-3 to even 200-300 in some cases. The camels graze in deserts where fodder is scarce, so they are herded over long distances. The local sheep are mainly of the Arab breed and are grazed around settlements or herder camps until spring. When the weather warms, herders move their flocks to higher pastures, reflecting the nomadic lifestyle common in this zone. Even residents with fewer sheep hire shepherds to graze them. In mild winters, herders may remain in pastures without returning to settlements. Due to summer heat, sheep are often grazed at night.

Because natural gas does not reach remote desert villages, residents mostly use local firewood (such as *halaxylon, tamarix, artemisia*)[7]. Some households heat their homes in winter using *norpechka* stoves, which retain heat well and help maintain room temperature[8]. Others use metal stoves. These practices play an important role in the seasonal lifestyle of residents. Due to water shortages, each settlement has 3-4 tons capacity water tanks (*ob-khona*), which are refilled via tanker trucks every two weeks or monthly.[9] This water is used for drinking and household needs.

Sheep are sheared twice a year – in the second half of spring and the first half of autumn. During this time, 10-20 unemployed locals in villages participate in sheep shearing, which lasts more than a month, typically in April and May.[10] Wool is highly valued due to the severe winters in the region. Local women knit warm clothing such as socks and gloves from sheep and camel wool.

In summer, residents collect fodder for their livestock around remnant mountain areas near Aydarkul, Shorkul, and the central Kyzylkum desert. In general, there are not many

[5]Information from informant G. Purmakhametov, a resident of Mingbulok village in Uchquduq district.
6 Fermented milk drink made from camel milk
7 Information from the informant S. Kushirbaev, residing in the Sukketi village
8 The main part for burning fuel, made of dried bricks, is located in the first room, while the flue part is placed in the second room. This system allows both rooms to be heated evenly while conserving fuel.
[9] Information from informant B. Jaaugashbaeva, who lives in the Keregetov village of Tomdi district.
[10] Information from informant S. Kazbekov, who lives in the Yangiqazgan village of Konimekh district.

interseasonal differences in livelihoods in this zone. Since the zone is specialised in pasture livestock farming, both daily and annual household cycles revolve around livestock**.**

Foothill and mountain-pasture livestock & dryland farming zone. The livelihood cycles in this zone differ significantly from other areas. Here, both daily and annual routines are directly linked to livestock and rainfed agriculture.

Due to the well-developed pasture-based animal husbandry in foothill villages, the daily routine often begins with herding. Households typically have 40-80 sheep and goats and may graze them together in groups of up to 13 livestock. Grazing duties are rotated based on herd size - one day for 25 sheep, two days for 50, etc. Grazing schedules are set by village elders, and each household's herd must be identifiable.[11] This process is called "*en solish*" and herds are marked with tags like *sharra* or *bandirabka* [12; 83-p.]. In other zones, earrings are used for herd identification. The counting and tagging process begins in March, when lambing season ends.

As in the desert-pasture zone, sheep shearing also takes place here, but 15-20 days later due to cooler temperatures. This seasonal process occurs twice a year, in late May and August, and mainly involves men.

By late May, fodder harvesting begins and lasts 15-20 days. The harvested feed is stored for winter use. Each household has its own land, known as *hayot* in Khatirchi district or *chorbog* in Nurota (depending on ethnic composition) [12; 75-p.].

With the arrival of spring, residents prepare for planting - mostly in March and April. They grow basic crops like potatoes, onions, carrots, and turnips for household needs (Table 1). For rainfed crops, they grow wheat, barley, and peas, harvesting them in early July. Harvesting is done in small groups and the produce is gathered into mounds (*khirmon*) for threshing using tractors or combines.[12] The straw is later transported via donkey carts for livestock feed. This process continues until August. In August, residents prepare for winter by collecting *yantok* (*Alhagi*) while it is in bloom. This nutritious livestock feed is gathered over 1-2 months. In the area, the next stage of preparation for the winter season begins: the mud plastering period. Households plaster the surroundings and roofs of their livestock pens with mud. This time mainly falls in October. Due to the higher annual rainfall in this area compared to others, rainwater tends to seep through the roofs. Therefore, the residents of this zone are compelled to plaster their roofs. The process of plastering the roofs is carried out through communal work, known as "*hashar*". One or two neighbors are invited to carry mud onto the roof and apply the plaster.

Plastering the livestock pens of a single household is done by 6-7 people. One person is involved in preparing the mud, two people in transporting the mud to the roof's edge, one person in moving the mud across the roof, and two people in applying and smoothing the plaster.[13] Salt is added to prevent plant growth on rooftops. After roof plastering, householders also plaster barn interiors – a process that takes up to a month.

Cold winters significantly influence daily life. Livestock are fed 3-4 times daily in barns when snow prevents grazing. Due to short daylight and cold, most time is spent indoors and in barns. During winter, homes are heated using *norpechka* stoves, and women take the lead in this task. The stove is lit three times a day, and each time, ashes must be removed and new firewood brought in. This is part of the women's daily routine **(**Table 1**)**. The presence of ore deposits in the foothills has increased interest in informal gold mining. Some locals sift through sedimentary rocks near the surface or extract gold particles from river sand. This practice continues throughout the year.

[11] Information from F. Kushmonov, a resident of Sovukbulok village, Nurota district.
[12] Information from A. Mustafoyev, a resident of Kokcha village, Nurota district.
[13] Information from A. Jumayev, a resident of Angidon village, Khatirchi district.

Table 1

Annual lifestyle cycles of rural population of various economic zones of Navoi region

Seasons	Natural-economic zones of Navoi region		
	Desert-pasture livestock	**Foothill and mountain-pasture livestock and dryland farming**	**Irrigated farming**
	Main economic and household activities of the rural population		
Spring	Sheep are grazed on pastures, their wool is sheared (before shearing, the wool is washed to improve its quality), camels and horses are tended, shelters are prepared (to protect against heat and various insects during hot summer days), sheep are vaccinated against various diseases, camel wool is collected, and horses are cared for	In spring, the land is plowed for crops, spring crops (such as potatoes, onions, carrots, and others) are planted, damaged vegetable gardens are repaired, livestock are taken out to graze on pastures, lambs are branded (to distinguish them from other sheep), the first harvest of rain-fed crops is gathered, sheep wool is sheared, and crops in the vegetable garden (such as potatoes, onions, carrots, and others) are irrigated and tended to.	Cotton is planted, vineyards are pruned and cleared to soften the soil, wheat fields are irrigated, products grown in greenhouses are put up for sale, vineyards are pruned and tilled to remove weeds and soften the soil, cotton fields are irrigated, and vegetable crops are planted.
Summer	Sheep are grazed on pastures, lambs are separated and raised (so that the sheep can recover), and the wool of both sheep and lambs is sheared (before shearing, the wool is washed to improve its quality).	On rain-fed lands, wheat, peas, and flax are harvested, barley (second harvest period) and various types of grass are gathered, crops in the vegetable garden (such as potatoes, onions, carrots, and others) are irrigated and tended to, livestock are grazed on pastures, beverages are made from ripe fruits, and various grasses on rain-fed lands are cut and brought in using different machinery.	Wheat, barley, and other crops, as well as wheat and straw, are harvested. Ripe fruits in orchards are picked and sent to the market. The top part of greenhouses is opened. Vegetable crops are tended to. Construction and repair work is carried out in houses. Grapes are harvested. Irrigated land for spring crops is watered, and autumn crops (such as beans, peas, and millet) are planted.
Autumn	Sheep are grazed on pastures, felt is made (lamb's wool is considered better than that of adult sheep), patterned rugs are woven, firewood is collected, winter fodder is stored for the sheep, and shelters are dismantled.	Sheep are sheared, yantak is gathered, construction and repair work is carried out in the houses, patterned rugs, carpets, and kashta (a type of textile) are woven, livestock are grazed on pastures, crops planted in the spring are harvested, and the roofs are covered with clay and water (to protect them).	Cotton is harvested, spring crops (such as potatoes, onions, carrots, turnips, cabbage, vegetables, and others) are collected, fruits are harvested from orchards, autumn wheat is planted, cotton stalks are cut and brought in, vines are pruned, and greenhouses are prepared for planting vegetable crops.
Winter	Sheep are grazed and cared for on pastures (in the morning and evening, they are fed with hay and forage, and the pens are cleaned)	Livestock are tended to (they are fed with hay and forage, and water is provided, pens are cleaned), and the roofs and sidewalls are cleared of snow.	Vineyards are irrigated, orchards are grafted, and unnecessary branches are pruned.

The table was compiled by the author.

*Irrigated farming zone***.** This zone is distinguished by its specialisation in cotton growing, grain cultivation, viticulture, and horticulture. Consequently, the daily and annual life cycles of the region's population are closely linked to these sectors.

A significant portion of the zone's population has built greenhouses on their household plots. In these greenhouses, they grow tomatoes, cucumbers, cabbage, cilantro, and other

vegetables and melons. It can be said that the income of many residents in this zone is directly tied to this activity. Planting in greenhouses mainly occurs in the autumn, and produce starts to appear in the markets in the spring. During the winter, the daily life cycle of those who have built greenhouses revolves around tending to the planted crops, measuring greenhouse temperatures, watering, and pest control.

The lifestyle of the zone's population is also connected to viticulture. Each household cultivates vineyards ranging from 0.02 hectares to 5 hectares. In the spring, the population begins to loosen the soil in the vineyards and uncover the vines. Then, the vines are treated, irrigated, and the soil around them is loosened. Caring for the vines requires a significant amount of time. Towards the end of May, the workload increases further for households specialising in viticulture. Soil is piled up at the base of the vines, a process the locals call "*dumbik uyish*".[14] August is the grape ripening season, so special areas are prepared for drying the grapes, and then the grapes are harvested. After the harvest is complete, vine pruning begins in October-November. Thus, the annual life cycle of households specialising in viticulture in the irrigated farming zone follows this pattern (see Table 1).

The population in the areas along the Zarafshan River engages in cattle breeding. The richness of vegetation in the riparian forests along the Zarafshan River has led the population of this area to engage in cattle breeding. Each household keeps 1-2 head of cattle, and some even up to 10.[15]

As is known, the main land areas belong to farms, and they do not allow livestock grazing on their land. Therefore, the population is forced to graze their livestock along the riverbanks. Mainly cotton and wheat are extensively cultivated in the zone's lands. The majority of these lands belong to farming enterprises. The daily and annual life cycles of the farmers are directly tied to the land.

In the autumn, they begin plowing the land and sowing wheat. With the arrival of spring, farmers irrigate the wheat fields and spend most of their day engaged in this activity. The wheat harvest begins with the onset of summer and lasts for a month. The land left vacant after the wheat harvest is partially allocated to households for planting corn, millet, turnips, and carrots. The population harvests these crops in the autumn, and until then, their life cycle is connected to this. The life cycle of farming enterprises directly involved in cotton cultivation is similar.

Cotton cultivation significantly impacts the lifestyle of the zone's population. This is because cotton fields are weeded three times from planting to harvesting. During these periods, farmers hire unemployed or labour-seeking residents for seasonal work. Hired labourers take on plots ranging from 0.5 hectares to 3-4 hectares to work on the cotton. After the cotton harvest, the cotton stalks in the fields are taken away to be used as firewood in daily life. This seasonal occupation of the population illustrates their daily and annual life cycle.

Horticulture is also well-developed in some of the zone's households. Gardeners typically begin tending to their orchards in early spring. They irrigate, loosen the soil, and care for the trees. After the trees begin to blossom in the spring, they are sprayed with pesticides. The trees are treated against pests three times throughout the year: during the flowering period, after flowering, and after the fruit has set. This is the main daily activity of gardeners in the spring. With the arrival of summer, the fruits on the trees ripen, and the ripe fruits are harvested and sent to the markets. This continues until September. Additionally, in the autumn, pomegranate and fig trees are buried for protection, and trees that need grafting are grafted.

Conclusion. In the Navoi region, three distinct natural-economic zones were identified, each differing in lifestyle characteristics: desert-pasture livestock zone; foothill and mountain-pasture livestock & dryland farming zone; irrigated farming zone. These zones differ not only in their natural conditions, resource availability and economic specialisation, but also in the

[14] Information from A. Mustafoyev, a resident of Urganji village, Khatirchi district.

[15] Information from A. Buranov, a resident of Madaniyat village, Khatirchi district.

daily lifestyle of the rural population. To analyse livelihood patterns, interviews were conducted in nearly fifty villages and settlements within each zone. Observations and information gathered from local informants were used to develop annual livelihood cycles. These cycles reflect what kinds of activities residents engage in during specific months and seasons of the year, and how these activities are connected to the region's dominant economic sectors. Moreover, the cycles illustrate the population's adaptation to natural conditions and environmental rhythms. To some extent, they are also influenced by the ethnic composition of the population – including traditional household practices and cultural norms of Uzbeks, Kazakhs, Karakalpaks, and Tajiks.

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