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Research paper

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SOME PROBLEMS OF AGRO-ETHNOGRAPHY OF THE PEOPLES OF DAGESTAN (ON THE CASE OF THE LAKS)

Annotation. The article is devoted to some issues of the agroethnography of Nagorno-Dagestan in the 19th – early 20th centuries. on the example of the Laks, now living in the territory of the Laksky and Kulinsky districts. The main attention of the author is paid to issues related to the system of agriculture, the evolution of agroethnography, their dialectical connection with social and cultural development. The task was set to investigate some issues of agroethnography of the Laks against the background and in connection with the established economic and cultural types characteristic of Lakia of the period under study, in particular, the agricultural type within the territorial limits of the current Laksky and Kulinsky districts. In his research, the author applies the methodology of M.O. Osmanov, when it is taken into account that the choice of a particular system is determined by the availability of land, agricultural tools, various methods of preparing and cultivating the land that can achieve maximum yield. At the same time, attention is drawn to the fact that the land use system also involves a set of measures aimed at preserving the resource of lands for their use in the future. The main "background" factor, which largely determines both agriculture and the components of agricultural culture, are natural and geographical conditions, ecology. The material for writing this article was collected by the author during expedition trips to the relevant regions, archival materials on the agricultural census of Dagestan for 1917, as well as visual observations of the author. The study showed that the use of various land use systems made it possible to preserve in Dagestan many traditional varieties of the most important cereals (wheat, barley, rye), bred by their distant ancestors.

Keywords: agroethnography; Dagestan; laks; farming system; terraces.

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Исследовательская статья

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К ПРОБЛЕМЕ АГРОЭТНОГРАФИИ НАРОДОВ ДАГЕСТАНА (НА ПРИМЕРЕ ЛАКЦЕВ)

Аннотация. Статья посвящена некоторым вопросам агроэтнографии Нагорного Дагестана в XIX – начале ХХ в. на примере лакцев, ныне проживающих на территории Лакского и Кулинского районов. Основное внимание автора уделено вопросам, связанным с системой земледелия, эволюции агроэтнографии, их диалектической связи с социальным и культурным развитием. Поставлена задача исследовать некоторые вопросы агроэтнографии лакцев на фоне и в связи со сложившимися хозяйственно-культурными типами, характерными Лакии исследуемого периода, в частности земледельческий тип в территориальных пределах нынешнего Лакского и Кулинского районов. В своем исследовании автор применяет методологию Османова М.О., когда учитывается, что выбор той или иной системы определяется наличием угодий, земледельческих орудий, разных способов подготовки и обработки земли, позволяющих достичь максимального урожая. При этом обращается внимание, что система землепользования предполагает также комплекс мероприятий, направленных на сохранение ресурса угодий для использования их в будущем. Главным «фоновым» фактором, в значительной степени обуславливающим как земледелие, так и компоненты земледельческой культуры, являются природно-географических условия, экология. Материал для написания данной статьи собран автором в ходе экспедиционных поездок в соответствующие районы, архивные материалы по сельскохозяйственной переписи Дагестана за 1917 г., а также визуальные наблюдения автора. Исследование показало, что применение различных систем землепользования, позволило сохранить в Дагестане многие традиционные сорта важнейших хлебных злаков (пшеницы, ячменя, ржи), разводившихся их отдаленными предками.

Ключевые слова: агроэтнография; Дагестан; лакцы; система земледелия; террасы.

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The study of agro-ethnography is one of the urgent tasks of modern ethnographic science. The tasks of agro-ethnography are not limited to the study of farming culture, but are closely connected with the most important aspects of the life and culture of farmers, with a number of traditional customs and rituals, the study of which are also of practical importance. Without a sufficiently extensive and in-depth study of agriculture, it is impossible to understand a more or less distinct idea about the people, about the peculiarities of intra-ethnic and interethnic relations.

The study of agriculture involves the consideration of economic development, the evolution of agro-ethnography in their dialectical connection with social and cultural development. At the same time, we set the task to explore some issues of the agro-ethnography of the Laks in connection with the established economic and cultural types characteristic of Lakia of the studied period. In our paper, we will be talking about agriculture, or rather, about the agricultural cycle in the territorial boundaries of the current Laksky and Kulinsky districts, the main areas of the formation and development of the Lak ethnic group. The period under study in the history of the Laks, like all Dagestanis, is particularly interesting and important in many aspects: the final annexation of Dagestan to Russia, the liquidation of the Khanate and the establishment of the Kazi-Kumukh district as part of the Dagestan region, the increasing penetration of elements of capitalist relations into the economy, etc.

Natural conditions (climate, soil, relief) have always been system-forming factors for agriculture as a whole. According to field¹ and literary data, the following main farming systems were used in Mountainous Dagestan: convertible (fallow), shifting, and crop rotation [1, p. 47]. Mountain Lakia is located in two geographical zones – mountainous and highland, which are associated with the diversity and specificity of soil climatic conditions.

Each of these zones have different climatic and soil conditions that required certain crop cultivation and even varieties of cultivated plants, farming skills and techniques.

All these factors largely determine the systems of agriculture used, the cultivation of certain agricultural crops, the timing of sowing, tillage tools, methods of sowing, harvesting, threshing and winnowing.

Naturally, the most significant factor in the distribution of varietal diversity is the the climatic features, an element of the natural geographical environment where the actions of the farmer manifest themselves.

A characteristic feature of the Lak farming is the terraced agriculture in the absence of irrigation. Terraces of all kinds typical for Mountainous Dagestan could be observed here [2, pp. 109, 136; 3, pp. 177–193]. We do not aim to give our own classification of terraced agriculture, but accept the classification of M.-Z.O. Osmanov and M.A. Aglarov, based on Darginsky and Avar material [4; 3, pp. 177–193; 5].

The first type of terraces is a small field situated on a relatively flat terrain on the top of the mountain, on grassy slopes, where the terraces had almost no stone walls, and were replaced by natural slopes. This type of terraces is called sloping terraces.

The second type is fortified narrow terraces of steep and rocky slopes, with artificial creation of soil layer.

^{1.} Author's field material. RF IHLL. F. 5. Inv. 1. File 330. P. 25.

The third type is floodplain or lowland terraces. Such terraces are formed as follows: in the riverbed, due to flood waters, low terraces of alluvial silt, sand, etc. are formed. Gradually, they overgrew with grass, shrubs and, consequently, conditions for soil formed. Such a terrace was eventually used for cultivation, protecting it with strong boulders from the penetration of flood waters [4].

However, the most common type for mountain agriculture is natural terraces, which served as a prototype of artificial terracing. Despite the expansion of arable land by terracing, there was little land convenient for cultivation in Lakia due to the heavily incised mountainous terrain.

The main, i.e. the dominant system of agriculture in Lakia was fallow farming with elements of crop rotation, more precisely, a fallow system with a three-field crop rotation. The arable field was divided into three parts, and if there were several plots, then every two years on the third one of the plots was designated for the so-called "bare fallow" [6, p. 147]. Fallow and cultivated crops during the three-field crop rotation alternated as follows:

	Field I	Field II	Field III
Year 1	fallow	winter crops	spring crops
Year 2	winter crops	spring crops	fallow
Year 3	spring crops	fallow	winter crops

In order to increase the fertility of the soil, the land was subjected to multiple plowing at different times of the year (spring, summer). Academician N.I. Vavilov notes that summer plowing with drying, even heating the soil in the sun, serves as one of the means of increasing soil fertility in arid zones [2, p. 180].

The fallow system was used mainly by wealthy peasants, and the owners of small lands used dense rotation farming without fallows, because they sowed only spring crops. As M.O. Osmanov notes, "In the Union of Kuli societies (villages of Kuli, Vikhli, Vachi, etc.), mainly sewage wastes from toilets mixed with ash and sheep excrements (most of the manure went to the dung, and therefore there was a shortage of fertilizers) were used as fertilizers. In alternating crops, cultivation of beans was also used to improve the soil, and spring beans prevailed here, mainly because of the winter cold (frosts were severe, and winters often passed without snow)" [7, p. 289].

The fields were fertilized, as mentioned above, either in late autumn or early spring. The fertilizer was mainly used in late autumn and was left to ripe in piles in winter; in spring, it was scattered prior to plowing. The manure was carried in wicker baskets placed on sledges, and sometimes in shoulder baskets [6, p. 147]. In the field, manure was stacked in a cone-shaped pile and sprinkled with a thin layer of dirt for better ripenning. This was done because cattle, kept in the barn, trampled grains, stalks, grass and other feed waste that fell out of the feeder into the manure. If fields were fertilized with such unripened manure, then weed shoots hindered the growth of crops. Ripen manure was considered the best fertilizer, it contributed to a faster restoration of soil fertility². Depending on the fertility of the soil and the distance from the village, the fields were fertilized either annually (rocky), or, if they

^{2.} Author's field material // RF IHLL. F. 5. Inv. 1. File 331. P. 9.

were more or less fertile, in a year or two (taking into account crop rotation). First of all, they fertilized the plots intended for sowing in the spring, "usually, they selected from the plots that were fertilized once in two years ago and were sown for both years at once" [8, p. 12; 9, p. 73]. Fertilizers were also applied prior to plowing the fields allocated for sowing early-ripe barley -khva. Ash was also used as fertilizer. Every day during the winter and spring, ash was thrown on the manure. The mixture of ash and manure was a "combined fertilizer" [6, p. 147].

When taking out fertilizer in the field, the Laks, like other peoples of Dagestan, called for *pomochi* (help, "para bichavu" or "h'u org'a davu") for one day. The number of people invited to *pomochi* depended on the prosperity of the host.

With a large number of livestock, a lot of fertilizers accumulated, and up to 15-20 people came to *pomochi*, while in the medium-sized farms – up to 4-6 people (mostly relatives and close neighbors). These farms gathered in accordance with the custom of mutual assistance – *marscha* (i.e. today you help me, and tomorrow I will help you).

In Lakia, during the crop rotation, the orientation of the land to the sun was strictly observed. In the shady parts of the land, barley was always sown as the most cold-resistant crop, and the rest were cultivated on the sunny side if possible (wheat, flax, legumes, etc.).

In the spring, before plowing, farmers checked the soil moisture – aravu³, i.e. they threw a lump of earth – if falling on the ground it crumbled, then it was time to start plowing. When plowing, the main plowing tool was khyaras, into which a pair of oxen were harnessed with the help of a yoke. The process of plowing itself is called *quaichavu*, and the person who plows is gvyit|ala. Before plowing, "the iron of the plow was prepared in advance, belts and ropes lay in a makhnika, i.e. in a bag made of untreated leather with a belt for putting on over the shoulder: various little things necessary for a plowman were put in this bag" [8, p. 31]. The ploughing tool was taken out to the square in advance to measure its height (apparently, the height of the rack) on a special stone, on which a notch was made to determine the hight [8, p. 31]. This indicates the adaptability of a certain kind of ploughing tools appropriate for the relief and the established ethnic traditions that formed the basis for the production of this ploughing tool. The ploughman held on to the handle of the ploughing tool with one hand, and in the other he held the whip with which he drove the oxen. For deeper plowing, the ploughman slightly raised the plow's heel and thereby emphasized the plowshare. Plowing and the associated sowing were carried out mainly in three methods.

Method 1. The farmer initially scattered grain on the untilled land, and then plowed it. In the process of plowing, the top layer covered the grains. This method of sowing grain was most practiced on lands located on steep mountain slopes. On the contrary, this method was not practiced on plots of land located on a gentle slope or at the foot of mountains, as well as on a flat area. This might be explained by the fact that when sowing in this method on flat areas, the seeds fell into the soil too deeply and could not produce good shoots. Therefore, with this method, the seeds were sown in clusters compared to other methods of sowing. After sowing, fertilizers were scattered around the field.

Method 2. The first spring plowing (*hu duhyan⁴*) was carried out, and then the fertilizer was scattered so that when plowing after sowing, it mixed with the ground at the level of the sown seeds. Then the fields were cleared of weeds, etc., and after that, sowing was carried out on the plowed and cleared of weeds plots and the sown seeds were plowed with an arable tool.

Method 3. In order to evenly sow seeds, the entire arable land was divided into equal plots. To do this, the plowman made a furrow along the lower edge of the field of the *marscha* to the side abuttal. Then he made a furrow along it at a distance of 2.5–3 m, after which he turned the plowing tool parallel to the *marscha* and drew the furrow to the intersection with the first lateral boundary, as a result of which the entire site was divided into a certain number of quadrangles. After that, the farmer poured grain into the measure cup and first sowed one quadrangle, scattering the grain, first in one direction, then in the other, etc.⁵

The diligent landowner tried to plow 6-7 times⁶, then fertilized the field, scattering the fertilizer so that when plowing after sowing, it mixed with the ground at the level of the sown seeds and the seedlings received more nitrogen.

When sowing different crops, a certain sequence was followed: first spring wheat (inttu lach|a) was sown, followed by peas, then hulless barley, etc. Last of all, potatoes were planted as the most thermophilic crop.

The main crops cultivated in Mountainous Dagestan, in particular in Lakia, during the study period were spring wheat (*inttu lach*|*a*), winter wheat (*ssuttil lach*|*a*), barley (*khva*), naked barley (*u*), oats (*neha*), rye (*sous*), vetch (*ssirk*), millet (*shi*), spelt, and corn (*shagnal lacha*) in limited quantities, which was cultivated "more for decoration than for yield". Among legumes, they cultivated beans (*shagnal hyuru*), peas (*hyuru*), lentils (*gyulu*), all this in very limited quantities. Of the oilseeds, only flax (*turt*) and hemp (*nitsa huva*) were sown [6, p. 148].

The farming culture of the Laks had its own well-established traditions and skills. As everywhere else in the mountains, the Laks paid great attention, as already noted above, to the location of arable fields. Further we provide a brief description of cultivated plants. We will start with the highland zone of the district, since the varieties of the most important crops (barley, wheat, rye, etc.) among the highlanders of the North Caucasus were cultivated, according to N.I. Vavilov, in the mountains, where agriculture had been at a higher level of development up untill the 70-80s of the 19th century [9, p. 77]. As evidenced by our field, archival and literary material, one of the most common cereals in the mountains was barley, which had many varieties. In Dagestan there were up to 30 varieties of barley, i.e. "over 60% of the total number of varieties in the USSR" [10, p. 167]. Dagestan barley was famous for its high grain quality, productivity and frost resistance, which "had no competitors in the global assortment" [11, p. 597]. N.I. Vavilov, regarding the spread of this culture on a global scale, writes: "In mountainous countries, barley grows in the highest places, rising to the limits of permanent snow, where neither the culture of spring rye nor of spring wheat survives" [11, p. 597]. According to N.I.

^{4.} Author's field material // RF IHLL. F. 5. Inv. 1. File 332. P. 20.

^{5.} Author's field material // RF IHLL. F. 5. Inv. 1. File 331. P. 36.

^{6.} Author's field material // RF IHLL. F. 5. Inv. 1. File 331. P. 42.

Vavilova, barley tolerates low temperatures well and "is not afraid of frosts even if a decrease in temperature occurs after the emergence of seedlings" [12, p. 241].

Local frost-resistant varieties of double-row barley, which gives a high yield only at low temperatures, was sown in the highland zone (over 2000 m above sea level), i.e. in this case it was one of the main products. Obviously, this once again deals with the main factor (background) in the cultivation of a particular variety – the natural and geographical conditions, which is clearly manifested when comparing the mountainous and highland zones.

Let us consider the degree of cultivation of barley in each zone separately. The predominance of this type of culture in the mountainous zone is evidenced by our archival data, judging by which, in the village of Khosrekh of the Kazikumukhsky district (present Kulinsky district), barley occupied 6.9% (Table. 1) of a spring field, while the winter wheat occupied 3.9% of the entire winter field of the same village⁷. In the neighboring village of Kuli (also included in the current Kulinsky district), barley occupied 28.1% (Table 1). It should be noted that the climate there is more temperate than in the village of Khosrekh, and the fields were distinguished by a large assortment of crops. And in the villages of the mountainous zone – Kumukh and Kuba – barley was sown on 41.5% (Table. 1) of the spring field for Kumukh (current Lak district), and on 17.6% (Table. 1) of the spring field in Kuba (same district).

As noted above, naked barley was also sown in Lakia, which was mainly used for the production of oatmeal, and served as the basis of many national dishes and drinks.

Wheat was the second common grain after barley in Lakia. According to N.I. Vavilova, some varieties of wheat found in the mountains "are distinguished by their amazing resistance to diseases" [11, p. 595]. Wheat, especially winter wheat ($ssuttil\ lach|a$), was the predominant cereal in the mountainous zone. Winter wheat crops in the highland zone accounted for an insignificant percentage, for example, in the village of Khosrekh – 4.0% (Table. 1), and spring wheat does not appear at all in the agricultural census of 1917: in the village of Kuli, 70.6% of the winter field is winter wheat, and spring barley is 18.1% of the spring field (Table 1). In the village of Kumukh, winter wheat accounted for 98.4% of the winter field, and spring wheat – 31.9% of the spring field (Table. 1); in the village of Kuba, winter wheat accounted for 98.5% (Table. 1) of winter fields.

In general, the above material indicates that wheat was one of the main traditional cereals of the highlanders, which was most widespread in the mountainous area of the region. Judging by the statistical data from the four villages of the considered zones, wheat occupied the first place among cereals in the villages of Kuba and Kumukh (present-day Lak district), and spelt – in Kuli and Khosrekh (present-day Kulinsky district). Oat (*neha*) was cultivated throughout the whole Lakia region, including the highlands. However, it was a low-yielding crop and was mainly used for feeding horses⁸. The number of crops apparently was so insignificant that it was not even listed in official documents. Rye (*sus*) also belongs to the grain crops common in the highland zone among the Laks. According to statistics, winter rye accounted for: in the village of Khosrekh – 100% of the winter field, in Kuli – 2.6% of the winter field (Table 1).

^{7.} The Central State Archive of the Republic of Dagestan (hereinafter as CSA RD). F. 59. Inv. 1. File 111.

^{8.} Author's field material // RF IHLL. F. 5. Inv. 1. File 331. P. 44.

Spelt was one of the few common crops cultivated by the Laks of the mountain zone. According to statistics, it accounted for 2.3% of the spring field in the village of Kumukh; but in the villages of the highland zone, the degree of its prevalence was higher, for example, in the village of Kuli it accounted for 70.6% of the spring field, and in the village of Khosrekh – 92.3% of the total spring field (Table 1).

The cultivation of corn (*shagnal lach*|*a*) was not widespread. Its sown area was 26.06% of the spring field in the village of Kuba (Table 1). Naturally, corn in the Caucasus is a more recent crop compared to other grain crops. Its emergence in the Caucasus was first recorded in the 16th century in Georgia [13, p. 371], from where it may have spread to the regions of the North Caucasus, in particular to Dagestan. Apparently, its poor spread in the mountains of Dagestan is explained by the climatic and soil conditions.

In Lakia, flax (*turt*) was sown in limited quantities, the toasted seeds of which were used to make paste with melted butter. Here, as well as in the whole mountainous Dagestan, peculiar undersized early-ripe oilseed flax was cultivated [14, p. 127].

In addition to field farming, the Laks developed gardening, but on a smaller scale. Of the garden crops, the most common were onions, garlic, and carrots⁹; the appearance of potatoes among them was a significant event. Potatoes, apparently, became widespread at the end of the 19th century.

Summarizing the above, we can conclude that "the formation of varieties of wheat, barley, rye and flax in the Caucasus, thanks to its diverse conditions, mountainous nature, ancient culture, especially in Transcaucasia and Dagestan, developed an extraordinary variety of ecotypes, representing striking contrasts when compared in the same cases. Often whole botanical species corresponded to a certain ecotype. Many of the endemic Caucasian wheat, rye, wild and cultivated fruit species did not go beyond the borders of their place of origin" [14, p. 121].

Thus, the peoples of Dagestan have preserved many traditional varieties of the most important cereals (wheat, barley, rye), cultivated by their distant ancestors.

Table 1. Proportions of crops (middle- and highlands) 1*

		Tota	l area in	sabs¹*		Crops										
	No. of	spring wheat			winter wheat		spring barley		winter barley		naked barley					
Villages househol	households	winter	spring	fallow	total area	% to spring crops area	total area	% to winter crops area	total area	% to spring crops area	total area	% to winter crops area	total area	% to spring crops area		
Kumuh	575	1250	1322	298	423	31,92%	1218	97,4%	549	41,5	6	0,4	219	16,5		
Kuba	239	322,5	671,5	22	_	-	317,5	98,5	117,5	17,4	_	ı	309	46		
Kuli	576	273	2022,5	1322	24	1,2	193	70,6	569	23,1	_	_	_	_		
Khosreh	421	50	1848,5	1426,5	_	_	2	4,0	128	6,9	_	_	_	_		

Table 2. Proportions of crops (middle- and highlands)

				Cro	ps					Other spring crops		Прочие с	эимые
Spe	elt]	Pea Lent		Lentil Potato Corn		orn				% к		
Total area	% to spring crops area	Total area	% to spring crops area	Total area	% to spring crops area	Total area	% to spring crops area	Total area	% to spring crops area	Total area	% to spring crops area	всего площадь	лощади озим. посевов
31	2,3	61	4,6	4	0,3	15	1,13	_	_	20	1,5	26	2,08
-	_	_	_	2	0,3	3	0,4	173	25,7	67	9,97	5	1,55
1429,5	70,6	_	_	_	_	_	_	_	_	_	_	80	29,3
1705,5	22,3	_	_	_	-	_	_	_	_	15	0,8	48	96

^{1. *} Tables are made according to: Agricultural census of Dagestan region in 1917// CSA RD. F. 59. Inv. 1. Files 111, 113, 114, 115, 116.

Plot coverage

Villages No. of households	No. of	No plots		Owning land <5 sabs		<10 sabs		<15 sabs		<20 sabs		>20 sabs	
	No arable land	No hayfield	arable land	hayfield	arable land	hayfield	arable land	hayfield	arable land	hayfield	arable land	hayfield	
Kumuh	575	328	388	77	18	101	62	40	18	25	46	30	68
Kuba	239	-	56	163	146	50	22	8	_	3	2	1	_
Kuli	576	108	177	199	94	178	154	32	37	28	46	21	60
Khosreh	421	33	70	139	186	154	112	42	22	35	14	13	15

Table 3. Strip cropping fields and small plots

	No. of households			Land fragmentation											
Village		1 st	rip	2 strips		3 strips		4 strips		5 strips		< 5 strips			
	Total	Having land	arable land	hayfield	arable land	hayfield	arable land	hayfield	arable land	hayfield	arable land	hayfield	arable land	hayfield	
Kumuh	575	304	71	145	74	56	48	17	35	13	20	3	26	5	
Kuba	239	226	18	27	26	30	45	32	32	23	24	15	81	44	
Kuli	576	473	68	114	78	99	107	88	60	41	41	8	112	20	
Khosreh	421	389	30	117	77	121	86	66	50	17	49	12	96	16	

Table 4. The degree of land occupancy for crops using crop rotations (due to lack of land)

	Households	Of th	em occupie	d for	Households	Of tl	nem occupied	l for	Households owning	
Villages	owning <5 sabs	Winter crops	Spring Fallow		owning <10 sabs	Winter crops	Spring Fallow		>15 sabs	
Kumuh	77	100	124	29	101	312	343	61	42	
Kuba	163	136,5	325,5	3	51	127	212	5	8	
Kuli	199	17	395,5	178	178	67	796	529	32	
Khosreh	139	_	329,5	153,5	154	3	661	546	42	

Of then	Of them occupied for		Households	Of them occupied for			Household	Of them occupied for			Total crops occupied		
Winter crops	Spring crops	Fallow	owning <20 sabs	Winter crops	Spring crops	Fallow	owning < 20 sabs	Winter crops	Spring crops	Fallow	Winter crops	Spring crops	Fallow
264	182	53	23	203	198	41	30	371	475	114	1250	1322	298
37	49	10	3	16	4	_	1	6	11	4	312,5	671,5	22
51	247	156	28	55	278	299	21	93	333	259	273	2022,5	1322
7	296	268	35	19	338	290	13	22	224	189	51	1848,5	1426,5

Table 5. Crops prevalence

	_	Winter wheat		Spring wheat		Winter	barley	Spring barle barl		Winter rye	
Villages	No. of households	No. of sowing households	Sabs	No. of sowing households	Sabs	No. of sowing households	Sabs	No. of sowing households	Sabs	No. of sowing households	Sabs
Kumuh	575	168	856	62	457	1	6	127	801	_	_
Kuba	239	144	314.5	25	53	_	_	192	421,5	2	2
Kuli	576	55	241	7	24	_	_	210	609	22	54
Khosreh	421	1	2	_	_	_	<u>-</u>	41	134	16	51

Spel	Spelt Oat		Corn		Millet		Pea		Lentil		Potate	О	
No. of sowing households	sabs	No. of sowing households	sabs	No. of sowing households	sabs	No. of sowing households	sabs	No. of sowing households	sabs	No. of sowing households	sabs	No. of sowing households	sabs
4	31	_	_	_	_	_	_	15	6	2	4	3	7
_	_	8	8	129	176	1	1	_	_	2	2	3	3
410	1479,5	_	_	_	_	_	_	_	_	_	_	_	_]
388	1906,5	_	_	_	_	_	_	_	_	_	_	_	_

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