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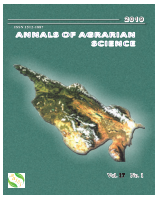

Flax Culture in the XVI Century Samtskhe-Javakheti

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A B S T R A C T

The work deals with the flax crop distribution in the second half of the XVI century. The study is based on the historic document: 'The Great Defter of Gurjistan Vilayet'. The research object is a flax crop, which was used in the past for oil manufacturing in the region under study. We have studied flax culture and have processed its data according to rural settlements and administrative units ('Liva' and 'Nihie') of the XVI century. We composed the map of the mentioned crop distribution, where the flax crops concentration areas are depicted. The comparative analyses of the conditions in the XVI and XXI centuries were conducted as well.

Keywords: Retrospective cartography, Flax, Landscape change, Agricultural crops, Samtskhe-Javakheti, Georgia.

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Introduction

Preservation and diversification of traditional agricultural crops are of great importance from both economic and cultural viewpoints. In the last century resulting from the Soviet state-planned economy the agricultural branch experienced a number of changes that were frequently related to the propagation of monocultures. This phenomenon became the reason for the disappearance of many agricultural crops that had a negative impact on both the diversity and competitiveness of the agricultural branches.

For Georgia as for the country with an ancient agricultural tradition, taking into account of the past experience is of great importance. There were such varieties of the agricultural crops here that are forgotten out and away. Fortunately, Georgia has a rich historiographic material in the form of documents, which confirm the existence of various agricultural crops and narrates us about their importance. Flax is directly among these crops.

From ancient times flax seeds were used as both feed and for curative purposes [1-5]. Oil – 'Bezir' was made of it. This oil was used not only for feeding and curative purposes, but also in the process of dyes and leathers manufacturing [6]. It was prepared by using the local special oil-pressing stones – 'Gelazi'. Some settlements were famous thanks to their 'Bezirkhanas', i.e. due to the local small enterprises, where the flax oil was manufactured [7, 8]. The information about rural settlements; also, the taxes levied is given in 'the Great Defter of Gurjistan Vilayet' [1, 2]. These taxes implied both money duty and its equivalent natural taxes [1, 3, 4].

Resulting from the study of the document we identified the flax distribution area, composed the maps that reflect the state existing in the XVI century.

Objects and methods

The region under study – Gurjistan Vilayet was spread on the territory of both modern Georgia and Republic of Turkey. The part of Gurjistan Vilayet located at the territory of Georgia mainly includes the administrative unit of Samtskhe-Javakheti. The study area is 6412.8 square kilometers. The population equals 160.5 thousand people; six municipalities – Akhaltsikhe, Adigeni, Borjomi, Akhalkalaki, Ninotsminda and Aspindza are combined in the region [9, 10]. The region is mountainous and is distinguished by alternation of structural basin, canyons, mountain chains and volcanic mountainous plateaus [11]. Samtskhe-Javakheti is located in the Mtkvari river valley, Akhaltsikhe structural basin and Javakheti plateau. In the past centuries the area was distinguished by flax plantings distribution.

The following archive sources, data and maps were used to conduct the research:

1. The main source was The Great Defter of Gurjistan Vilayet – a document drawn up by Ottoman Empire officials in the second half of the XVI century. The Georgian version of this document was prepared in three volumes by academician Sergi Jikia in the last century. We made use of the second and third volumes of the Defter, where the population and agricultural crops described in the settlements are given, as well as the taxes levied and the geographical locations of settlements are indicated, too, that was very important to their identification on the map;
2. The results of agricultural census carried out in 1923, in which the data on agricultural crops and areas under crop are given [12];
3. The results of 2004 and 2014 censuses that assisted us in the establishment of the modern pattern of flax culture distribution;
4. The map composed by Sergi Jikia and Alexander Aslanikashvili in 1953 based on 'The Great Defter of Gurjistan Vilayet' (1:330 000) [13];
5. Topographic maps (1:25000; 1:50000);
6. Satellite images;
7. Materials obtained in expeditions, notes and photos.

The following methods were used during our research:

a. The historiographic analysis methods, which envisage the processing and analysis of historical sources, as well as the study and analysis of works published by researchers in the last century;
b. Field research. We conducted the expeditions. In the course of expeditions, we became acquainted with the state of agricultural crops, the confirmed remnants of flax oil culture, which is kept in the form of residual elements of oil-pressing enterprises;
c. The mapping method, which envisages the identification of object locations and their plotting, marking out of distribution zones and the preparation of thematic maps;
d. Geo-information method, which implies preparation of digital layers and vast database using GIS-technologies, drawing of thematic maps on their basis, qualitative and quantitative analysis;
e. The method of data, comparative analysis, which implies the comparison of the state of the period under study with subsequent periods, including modern data that assist us to study the dynamic of the events and manifested tendencies.

Results

Flax plantings were distributed almost over all settlements both at the Javakheti plateau and in river valleys. There is observed, their concentration in the following sections: 1. Kvabliani river valley and Akhaltsikhe (Samtskhe) hollow; 2. Middle part of Uraveli river; 3. Mtkvari river valley at the Klde-Atskuri-Slesa section; 4. Mtkvari canyon at Margastani-Tmogvi-Vardzia section; 5. Buzmareti basin; 6. Javakheti plateau, volcanic tablelands, from where the flax plantings were distributed to the left side of Mtkvari canyon, on the Niala-Erusheti volcanic massif.

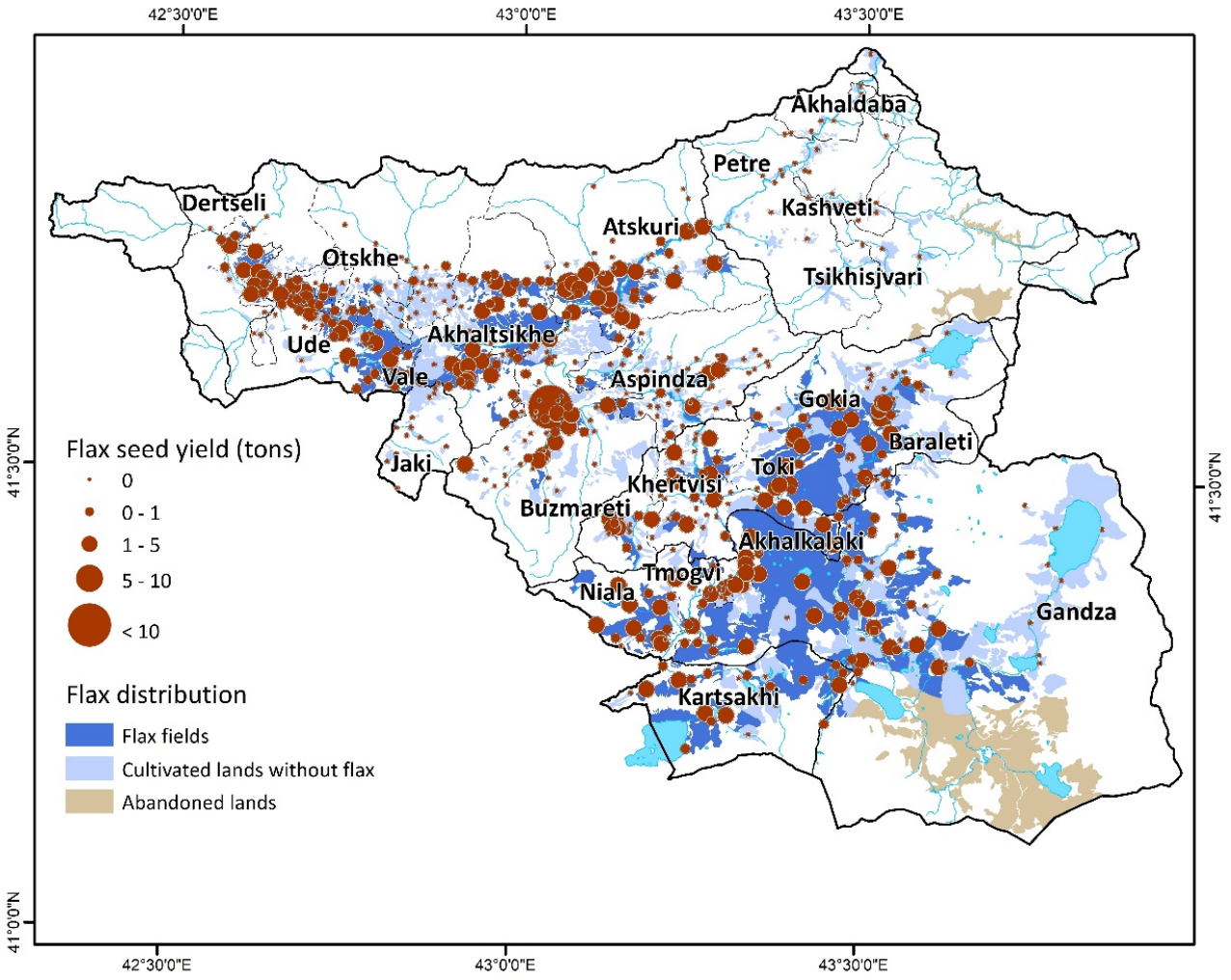

Fig. 1. *Flax crop in XVI century on the territory of Samtskhe-Javakheti*

There were not flax plantings in the Borjomi gorge (Petre Liva, Petre and Kashveti Nihies) that probably can be explained not only by shortage of lands but also by a small number of populations.

The flax was planted in the basin both at plain surfaces and artificial wall-less terraces – 'Laris'. We deem that especially favorable conditions for flax distribution were created at the volcanic plateau that can be explained by the following: despite the fact that the land fund was mainly used for cereal crops, flax crop played an important role here anyway. This can be confirmed by high indicators of its yield in Tke-Javakheti, Akshehiri (Akhalkalaki) and Qanarbeli Nihies. The high hypsometric range of its distribution is indicated also by the fact that flax was seeded starting with Atskuri Nihie to Nialiskuti, Akshehiri, Qanarbeli and Chacharaki Nihies. The highest yield of flax crop was characteristic also for villages located in Buzmareti Nihie, similar to Nihies, where the altitude of settlements hypsometrically reached 2100-2200 m and sometimes even exceeded it.

Table 1. *Flax seed yield (tons) at the territory of Samtskhe-Javakheti (according to administrative units entering the Gurjistan Vilayet)*

Administrative units (Liva, Nihie)	Number of settlements with flax crops	Total amount (tons)
Akhaltsikhe Liva (Sanjak)		
Mzvare	16	12.75
Chrdili (Akhaltsikhe)	21	19.76
Ude	45	39.27
Kvabliani	5	5.48
Otskhe	2	1.91
Atsk'uri	29	32.13
Altunkala (Okrotsikhe)	4	2.295
Aspindza	9	6.88
Ch'ach'araki	18	37.99
Total (within the Akhaltsikhe	149	158.465
Khertvisi Liva		
Khertvisi	16	15.43
Tqe-Javakheti	35	35.83
Buzmareti	8	8.03
Total (within the Khertvisi	59	59.29
Akshehir (Akhalkalaki) Liva		
Akshehir (Akhalkalaki)	43	42.33
Tmogvi	9	10.22
Nialisquri	20 (on the territory of Georgia - 15)	18.62 (on the territory of Georgia - 13.5)
Total (within the Akhalkalaki Liva)	72 (on the territory of Georgia - 67)	71.17 (on the territory of Georgia - 66.05)
Childiri Liva		
Kanarbeli	22 (on the territory of Georgia - 15)	19.64 (on the territory of Georgia - 11,98)
Total (within the Childiri Liva)	22 (on the territory of Georgia - 15)	19.64 (on the territory of Georgia - 11,98)
Fotskhovi Liva		
Chrdili	4 (on the territory of Georgia - 0)	3.19 (on the territory of Georgia - 0)
Total (within the Fotskhovi Liva)	4 (on the territory of Georgia - 0)	3.19 (on the territory of Georgia - 0)
Petre Liva		
Petre	0	0
Kashveti	0	0
Total (within the Petre Liva)	0	0
Total amount on the territory of the 'Gurjistan Villaiet' (in Georgia)	306 (on the territory of Georgia- 290)	311.75 (on the territory of Georgia - 295.78)

The average yield per one village was approximately one ton. For some villages the fewer yields were peculiar, while for others – far more, but this figure expresses the average indicator and indicates the importance of the mentioned crop. The 712 populated places are registered in the Defter, which are entirely or partly located at the territory of Georgia. The part of settlements of Kanarbeli, Ude and Chrdili (Potskhovi Liva) Nihies was located at the territory of Republic of Turkey. Thus, 683 of 712 registered villages were located at the territory of modern Georgia. Flax crop was cultivated in 290 populated places that equal to 42,5%. 242 of 683 settlements were already devastated by that time, therefore, for these populated places the total levied tax is given in 'Akhchis' and nothing is said about natural taxes. If we judge according to the rest 441 populated places, we can conclude that flax culture was cultivated approximately in 65.8% of settlements. Flax seed production remained the important branch even during the ensuing centuries that is confirmed by the results of the 1923 census (Table 2). In the Soviet period flax was gradually forgotten and its plantings were replaced with other crops. This caused in the end the disappearance of flax culture in the region.

Table 2. *Flax crop in the beginning of the XX century in the study region [12]*

Mazra	NN	Community	Flax crop	
			Flax field area	Flax seed yield
Akhalkalaki	1	Alastani	22.89	28.6
	2	Baraleti	167.969	209.96
	3	Gorelovo	1.744	2.18
	4	Dilska	148.24	185.3
	5	Eshtia	35.752	44.69
	6	Kondura	314.683	393.35
	7	Kulikami	128.075	160.1
	8	Okami	119.464	149.33
	9	Sathkhe	2.398	2.9975
	10	Khertvisi	0	0
		Total	941.215	1176.5
Akhaltsikhe	1	Adigeni	0	0
	2	Ats'kuri	0	0
	3	Vale	0	0
	4	Varkhani	0	0
	5	Idumala	0	0
	6	Klde	0	0
	7	Lepisi	0	0
	8	Ude	0	0
	9	Uraveli	3.052	3.815
	10	Akhaltsikhe town	0	0
		Total	3.052	3.815
Gori (Communities according of 'Gurjistan Villaiet' territory)	4	Akhaldaba	0	0
	7	Bakuriani	21.364	26.7
	8	Borjomi	0	0
	11	Gujareti	0	0
	12	Dviri	0	0
	32	Kvishkheti	0	0
	36	Tsagveri	0	0
		Total	21.364	26.7
Total (within the entire region)			965.631	1207.04

The difference between the 1574 and 1923 data shows that flax plantings have been increased. The total indicator is almost 4-times bigger as far as the population number was increased five and more times. In the Akhaltsikhe hollow and Mtkvari valley at Atskuri-Klde-Tsnisi-Zikilia section flax plantings were already disappeared by the mentioned period. There were no more flax plantings in the vicinity of Khertvisi, as well, but instead the mentioned crop was appeared in the surroundings of Bakuriani that solidifies the above-mentioned argument that was expressed regarding Petre and Kashveti Nihies – flax culture was not observed here due to depopulation of these places. But one can observe the concentration of flax crop at the Javakheti plateau and, as we can see, in the last century it played an important role in the local life. We still can face the stones and special warehouses, remained in particular villages that were used for gathering and treatment of flax seeds (Fig. 2).

Among flax seed products one can single out flax oil or 'Beziri' as it was called in Ottoman Empire, which was very popular product and it was even exported. On the topographic maps the titles 'Bezirkhana' are mentioned sometimes instead of village names, and this fact points at the mistake made by map compiler, who taken the term named by the resident to be an own name of the village and, correspondingly, plotted it on the map. However, in the Defter the particular settlements are levied by the tax exactly according to 'Bezirkhanas', which presented the flax oil producing enterprises. The 'Bezirkhanas'

Fig. 2. *„Gelazi" – oil-pressing stone, village Foka*

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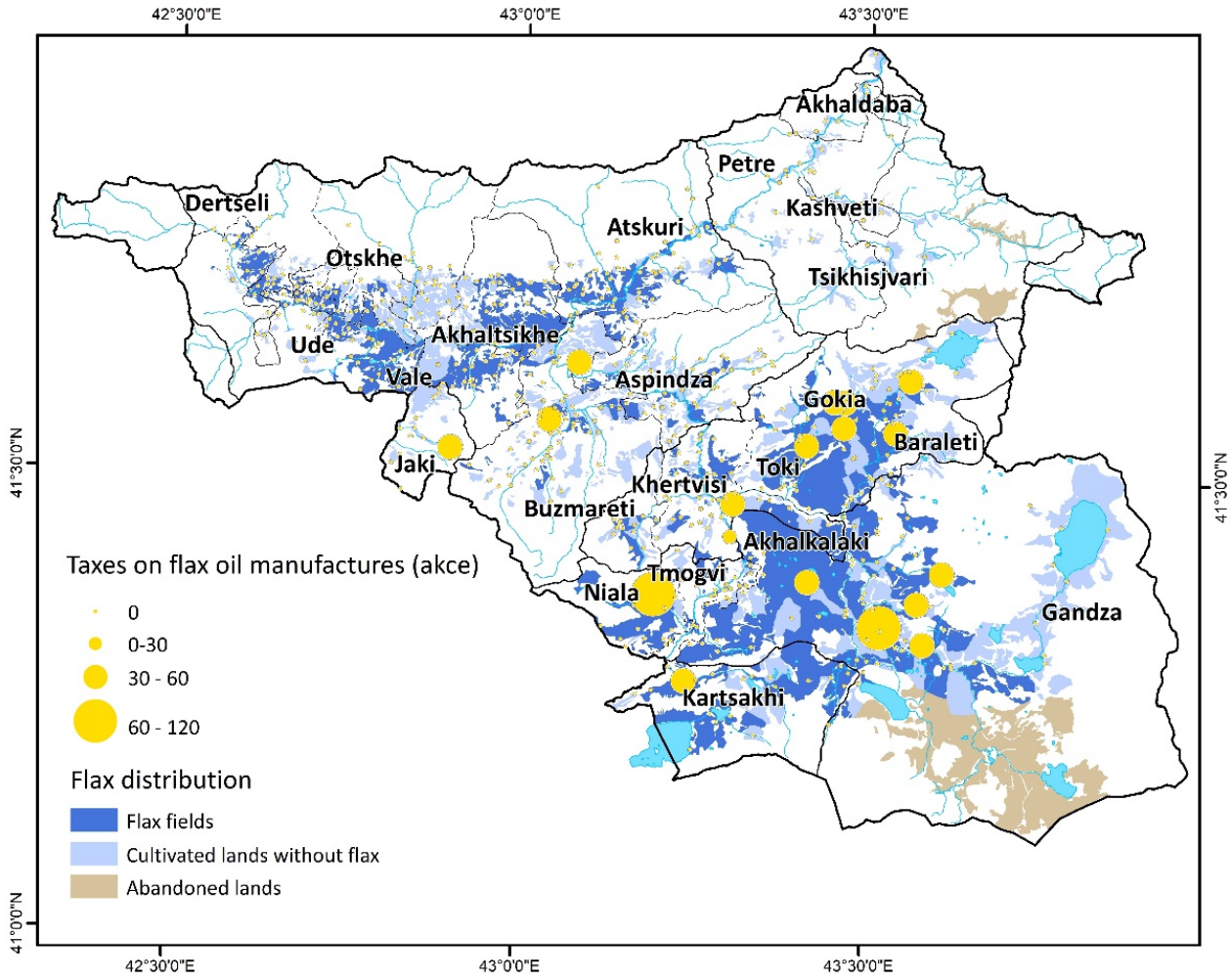

Fig. 3. *'Bezirkhanas' at the territory of Samtskhe-Javakheti according to 1574 data*

Conclusion

1. Flax was the important agricultural crop for Georgia in the middle ages. Oily flax was widely cultivated in the Samtskhe-Javakheti. Flax seeds and oil were used as a food and medication, for dyes and for other intended purposes, too.
2. Due to great demand for the flax oil-pressing centers were emerged, which also played important role in the trading as the enterprises manufacturing the exported goods.
3. Flax crop was propagated throughout the Samtskhe, while the most of 'Bezirkhanas' were concentrated at the Javakheti plateau and Niala field. The reason was the fact that the massive boulders necessary for manufacturing 'Gelazis' and construction of 'Bezirkhanas', were concentrated exactly in the volcanic landscapes of Javakheti.
4. In the ensuing centuries the flax culture was shifted mostly to the Javakheti plateau and in the beginning of the XX century its yield was far more than in the last centuries.
5. From the very beginning of the Soviet period this crop was oppressed and by the turn of the XXI century it was totally disappeared.
6. Disappearance of flax culture in Samtskhe-Javakheti is related to the series of agricultural reforms conducted in the Soviet period that had several times the impact on Georgian villages. The flax crop can be ranked among such traditional crops which became the victims of the Soviet state-planned economy in the middle of the XX century.

Acknowledgements

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