Scientific-Information Center
Interstate Commission for Water Coordination in Central Asia

"Assessing Land Value Changes and Developing a Discussion-Support-Tool for Improved Land Use Planning in the Irrigated Lowlands of Central Asia“
(LaVaCCA)

Socio-Economic and Agricultural Assessment of Elikkala district, Republic of Karakalpakstan

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Introduction

The national socio-economic development is governed by a body of interrelated fields, sectors, and territories. These interrelated factors represent both territorial-production structures and national-cultural and nature-climatic units.

The economic situation in rural area to a large extent impacts economic outcomes of the region. This causes a need for searching appropriate management forms and practices for development of rural area. In this context, assessment of socio-economic development in rural regions comes to the forefront.

The target of given study is the Elikkala district located in the Republic of Karakalpakstan.

Objective of the study is to analyze and assess socio-economic and agricultural development in Elikkala district.

Given study attempts to make an unbiased analysis of the current socio-economic situation and agricultural development in Elikkala district by using statistics, data from the State Committee for Land, Geodezy, Mapping and National Cadastre (Goskomzemgeodezcadastre), as well as expert and analytical estimations.

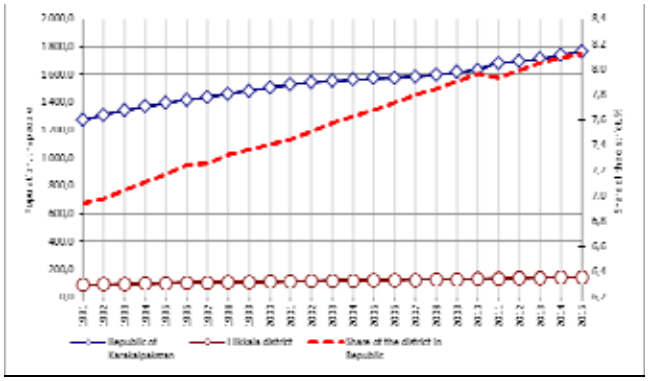
Chapter I. Demographic situation

1.1. Population

The state's success in almost all its spheres is closely related to sustainable demographic development that ensures reproduction of human potential.

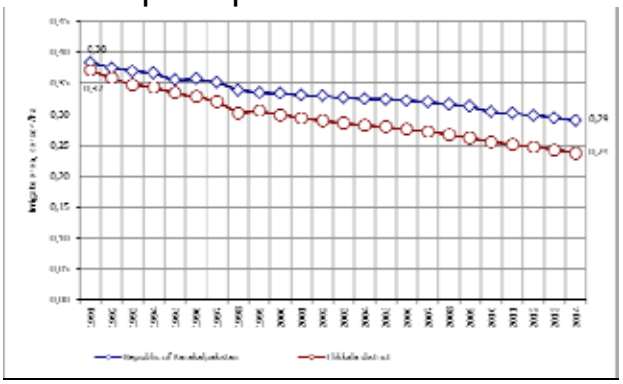
There is a tendency of rapid population growth during the years of Independence in all regions of Uzbekistan and the Republic of Karakalpakstan, particularly, in Elikkala district (Figure 1.1).

Figure 1.1. Population dynamics in 1991-2014



Source: estimated by the author on the basis of statistics from the Uzbek State Statistical Committee

Figure 1.2. Dynamics of irrigated areas per capita in 1991-2014



Source: estimated by the author on the basis of statistics from the Uzbek State Statistical Committee

As of 01.01.2015, the total population of the Republic of Karakalpakstan is 1, 763.1 thousand that is for 38.8% more than in 1991. For Elikkala district, these indicators are 143.2 thousand and 62.4%, respectively. The share of Elikkala district in the total population of the Republic of Karakalpakstan was growing steadily, and this growth was 6.9 % in 1991 and 8.1 % in 2014.

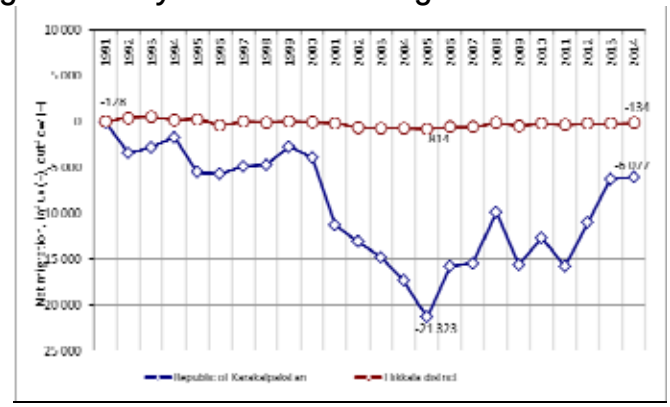
Due to high population growth in the study area, there is a decline in irrigated areas per capita as in Figure 1.2.

1.2. Migration

During the years of Independence there were significant changes in migration processes in the Republic of Karakalpakstan and Elikkala district. There is a negative migration balance, i.e. internal and external migration is increasing. The high level of negative migration balance in both Elikkala district and in the Republic Karakalpakstan can be observed in 2005 (see Figures 1.3, 1.4, 1.5 and Table 1.1). The internal migration growth in Elikkala district is connected with place of education or permanent employment of the population in Nukus and Tashkent cities mainly.

External migration growth is related to village inhabitants, who left their permanent residence in Elikkala district, in search for jobs, mainly to Russia. The study shows that representatives of Kazakh nation live in Elikkala district. There is an emigration growth of this nation over the last years. They move to Kazakhstan for permanent residence.

Figure 1.3. Dynamics of net migration in 1991-2014



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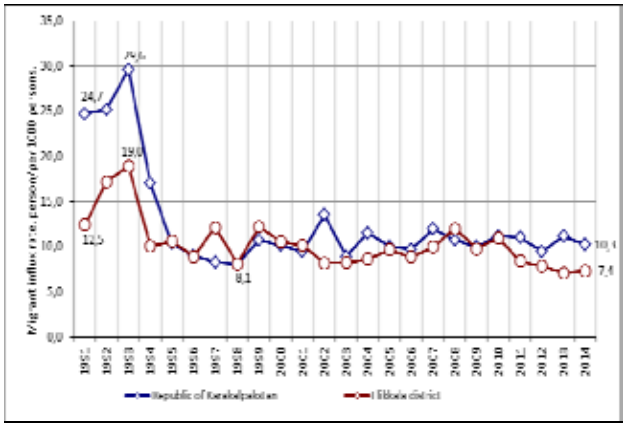
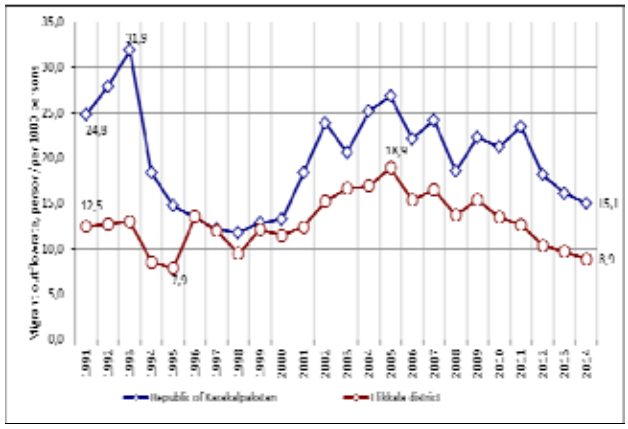


Figure 1.3. Dynamics of net migration in 1991-2014



Source: estimated by the author on the basis of statistics from the Uzbek State Statistical Committee

Table 1.1

Dynamics of population migration in 1991 – 2014

Indicator	Republic / district	1991	1995	2000	2005.	2010	2014
Influx of migrants, ths people	Republic of Karakalpakstan	31. 4	13.2	12.9	12.8	14.3	13.1
	Elikkala district	1.1	0.9	0.9	0.9	1.0	0.7
Outflow of migrants, ths people	Republic of Karakalpakstan	31.6	18.8	16.8	34.1	27.0	19.1
	Elikkala district	1.1	0.7	1.0	1.7	1.2	0.8
Net migration, influx (+), outflow (–)	Republic of Karakalpakstan	-128.0	-5,529.0	-3,919.0	-21,323.0	-12,696.0	-6,077.0
	Elikkala district	-4.0	243.0	-79.0	-814.0	-223.0	-134.0
Migration volume, ths people	Republic of Karakalpakstan	63.0	32.0	29.8	46.9	41.2	32.2
	Elikkala district	2.2	4.6	4.9	2.5	2.2	4.4
Migrant influx rate	Republic of Karakalpakstan	24.7	10.4	10.2	10.1	11.2	10.3
	Elikkala district	12.5	10.7	10.6	9.7	11.0	7.4
Migrant outflow rate	Republic of Karakalpakstan	24.8	14.8	13.3	26.8	21.2	15.1
	Elikkala district	12.5	7.9	11.5	18.9	13.5	8.9

Source: estimated by the author on the basis of statistics from the Uzbek State Statistical Committee

Chapter II. Current condition of agriculture

2.1. Total land area and agricultural land use

Nowadays the total land area in Elikkala district, Republic of Karakalpakstan is 541,900 ha, of which 34,000 ha are irrigated. Whereas agricultural land area is 387,500 ha, of which 30,600 ha are irrigated. The crop area decreaed from 29,400 ha in 1991 to 28,700 ha in 2014, i.e. by 749 ha. The reduction of area is observed in case of perennial plantings as well (Table 2.1)

Table 2.1

Total land area and agricultural land use in Elikkala district, Republic of Karakalpakstan in 1991-2014 (ths ha)

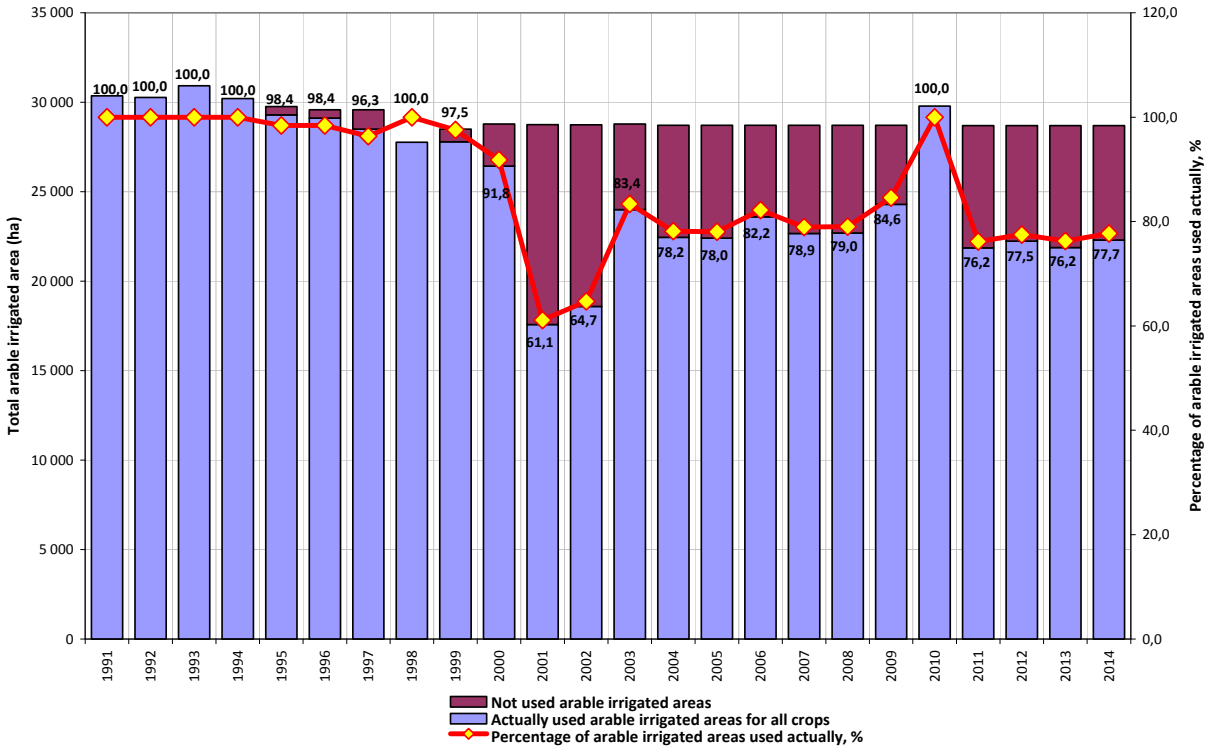
Year	Total land area		Agricultural land		Including:								
					Arable land			Perennial plantings		Hayfields and pastures		Other land use	
						including:							
	Total	of which: irrigated	Total	of which: irrigated	Total	irrigated	rainfed	Total	of which: irrigated	Total	of which: irrigated	Total	of which: irrigated
1991	541.9	33.8	388.5	30.9	30.3	30.3	0.0	4.4	4.4	357.6	0.0	0.0	0.0
1992	541.9	33.8	388.5	30.9	30.3	30.3	0.0	4.4	4.4	357.6	0.0	0.0	0.0
1993	541.9	33.8	388.5	30.9	30.9	30.9	0.0	4.3	4.3	357.6	0.0	0.0	0.0
1994	541.9	34.3	388.9	31.3	30.2	30.2	0.0	4.4	4.4	357.6	0.0	0.0	0.0
1995	541.9	34.3	388.7	31.2	29.8	29.8	0.0	4.4	4.4	357.5	0.0	0.0	0.0
1996	541.9	34.2	388.6	31.0	29.6	29.6	0.0	4.4	4.4	357.5	0.0	0.0	0.0
1997	541.9	34.2	388.6	31.0	29.6	29.6	0.0	4.4	4.4	357.5	0.0	0.0	0.0
1998	541.9	32.9	386.5	29.6	27.8	27.8	0.0	4.5	4.5	357.5	0.6	0.4	0.4
1999	541.9	34.0	387.6	30.7	28.5	28.5	0.0	4.3	4.3	357.5	0.6	0.4	0.4
2000	541.9	34.0	387.6	30.7	28.8	28.8	0.0	0.9	0.9	357.5	0.6	0.4	0.4
2001	541.9	34.0	387.6	30.7	28.7	28.7	0.0	4.0	4.0	357.5	0.6	0.4	0.4
2002	541.9	34.0	387.5	30.6	28.7	28.7	0.0	0.9	0.9	357.5	0.6	0.4	0.4
2003	541.9	34.0	387.5	30.6	28.8	28.8	0.0	0.9	0.9	357.5	0.6	0.4	0.4
2004	541.9	34.0	387.5	30.6	28.7	28.7	0.0	0.9	0.9	357.5	0.6	0.4	0.4
2005	541.9	34.0	387.5	30.6	28.7	28.7	0.0	0.9	0.9	357.5	0.6	0.4	0.4
2006	541.9	34.1	387.5	30.6	28.7	28.7	0.0	0.9	0.9	357.5	0.6	0.4	0.4
2007	541.9	34.1	387.5	30.6	28.7	28.7	0.0	0.9	0.9	357.5	0.6	0.4	0.4
2008	541.9	34.0	387.5	30.6	28.7	28.7	0.0	0.9	0.9	357.5	0.6	0.4	0.4
2009	541.9	34.0	387.5	30.6	28.7	28.7	0.0	0.9	0.9	357.5	0.6	0.4	0.4
2010	541.9	34.0	387.5	30.6	29.8	29.8	0.0	0.9	0.9	357.5	0.6	0.4	0.4
2011	541.9	34.0	387.5	30.6	28.7	28.7	0.0	0.9	0.9	357.5	0.6	0.4	0.4
2012	541.9	34.0	387.5	30.6	28.7	28.7	0.0	0.9	0.9	357.5	0.6	0.4	0.4
2013	541.9	34.0	387.5	30.6	28.7	28.7	0.0	0.9	0.9	357.5	0.6	0.4	0.4
2014	541.9	34.0	387.5	30.6	28.7	28.7	0.0	0.9	0.9	357.5	0.6	0.4	0.4

Source: Data of the Uzbek State Statistical Committee

As can be seen in Table 2.1, the whole arable area in Elikkala district is irrigated. Dynamics of arable irrigated area during the period of 1991-2014 indicates decreasing of used arable areas for the recent two decades since 1995 (Fig. 2.1). The lowest values fall on the low-water years - 1998, 2001 (and the consequent 2002), and 2011. Thus, since 1998 the total area of irrigated lands reduced by 1.8 thousand ha throughout the district; in 2001, out of almost 29 thousand ha of arable lands, 17.5 thousand ha (61.1%) (and 65% in 2002) were actually used; in 2011 – 76.2%. In Karakalpakstan and Khorezm, about 90% of the rice crop and 75% of the cotton crop were lost in 2000-2001 (Irrigation in Central Asia in Figures. AQUASTAT Survey-2012). Besides low-water years, other reasons for the decreasing tendency are water shortage observed in the Central Asian region, and diminishing of soil fertility. Thus, Karakalpakstan has the highest financial losses because of land degradation (ZEF Policy Brief No. 14, Aug. 2015). 2009 и 2010 being of high-water were an exception here, when irrigated lands were almost completely used for cultivating crops (84.6% and 100% respectively).

Figure 2.1

Dynamics of arable irrigated area in Elikkala district (Republic of Karakalpakstan) in 1991-2014



Source: estimated by the author on the basis of statistics from the Uzbek State Statistical Committee.

Over the reviewed period the total area of planted forests was 29,200 ha. Irrigated forest area increased by 344.4 % from 1991 to 2014, i.e. from 18 ha to 80 ha, respectively (Table 2.2)

Table 2.2

Change in area of planted forests in Elikkala district (Republic of Karakalpakstan) in 1991-2014

	1991	1995	2000	2005	2006	2010	2014	Growth rate, %
Total area, ths ha	29.1	29.2	29.2	29.2	29.2	29.2	29.2	+0.3
of which: irrigated area, ha	18.0	61.0	97.0	72.0	80.0	80.0	80.0	+344.4

Source: Data of the Uzbek Goskomzemgeodezkadaster.

2.2. Gross agricultural output and its structure [1]

The total contribution of agricultural sector in Elikkala district was US$ 57.5 M in 2014 that is four times more than in 1994. The share of crop production is 43.6% or US $25.1 M in the total agricultural sector, whereas the share of livestock farming is 56.4% or US $32.4 M (Figure 2.2).

Figure 2.2. Dynamics of gross agricultural output in Republic of Karakalpakstan in 1991-2014

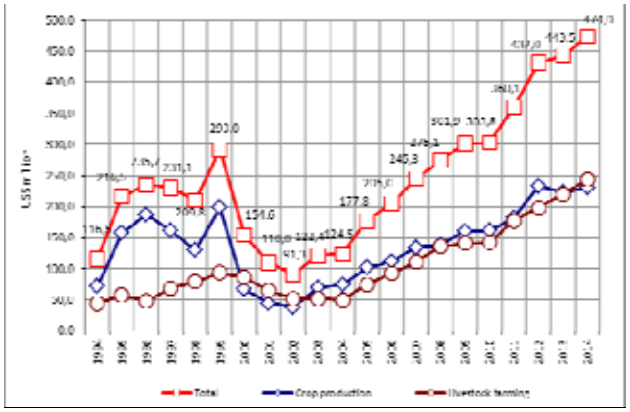
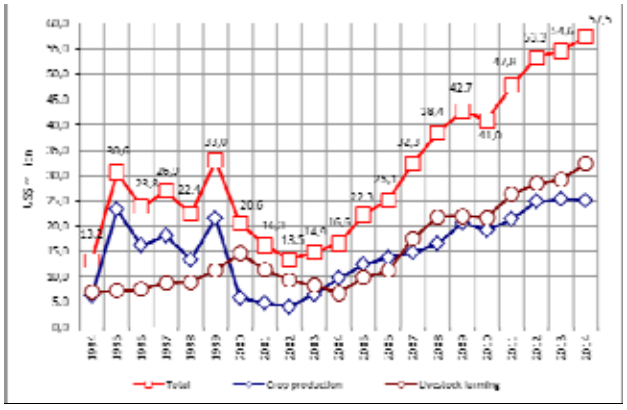


Figure 2.3. Dynamics of gross agricultural output in Elikkala district in 1991-2014



Source: estimated by the author on the basis of statistics from the Uzbek State Statistical Committee

Gross agricultural output in the Republic of Karakalpakstan was US $474 m in 2014, of which crop production accounted for 48.6% or US $230.3 M and livestock production – 54.1% or US $243. 7 M (Figure 2.3).

All of this illustrates that livestock farming is a prevailing direction of agricultural sector not only in Elikkala district but also in the Republic of Karakalpakstan.

As Figures 2.1 and 2.2 showed, sustainable development of agriculture has marked the turning point in both Elikkala district and in the Republic of Karakalpakstan since 2002.

[1] Analysis was made for data since 1994 as before 1994 another national currency with different nominal value was used. Exchange rates were downloaded on 02.10.2015 from the web-site of the Central Bank of RUz: http://cbu.uz/uzc/section/rates.

2.3. Crop production

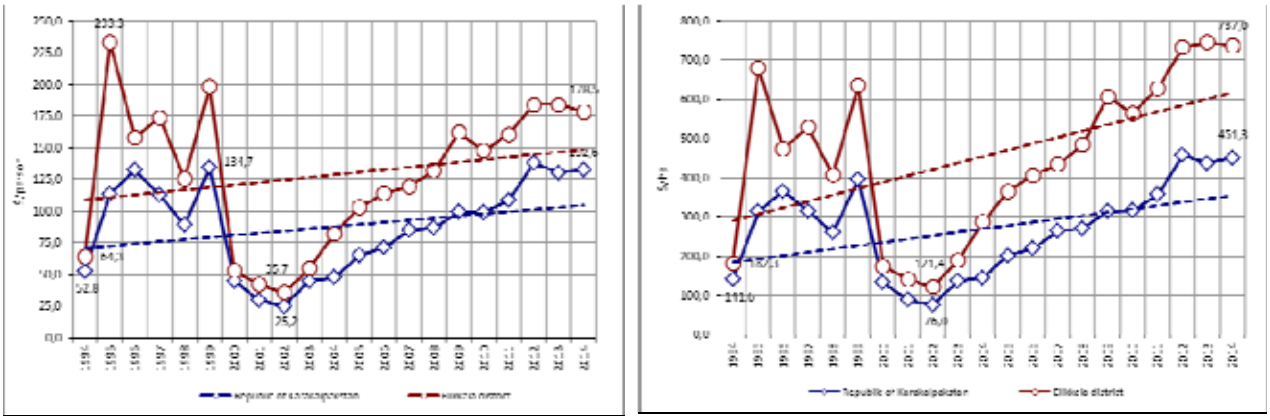
2.3.1. Unit value of gross crop production[2]

Value of gross crop production per capita and per 1 ha of irrigated area both in Elikkala district and in the Republic of Karakalpakstan sharply varied and was unstable in the period from 1994 to 2002. But there has been a rapid increase in these indicators since 2002.

These indicators were critical during dry years (1998, 2000-2002). As a result of climatic changes, the value of gross crop production was US $ 35.7 per capita and US $ 121.4 per 1 ha of irrigated area in 2002. At the same time, these indicators of unit value in Elikkala district were higher than those for the Republic of Karakalpakstan (Figures 2.4 and 2.5).

Figure 2.4. Dynamics of value of gross crop production per capita in 1991-2014

Figure 2.5. Dynamics of value of gross crop production per 1 ha of irrigated area in 1991-2014



Source: estimated by the author on the basis of statistics from the Uzbek State Statistical Committee

2.3.2. Cropping patterns

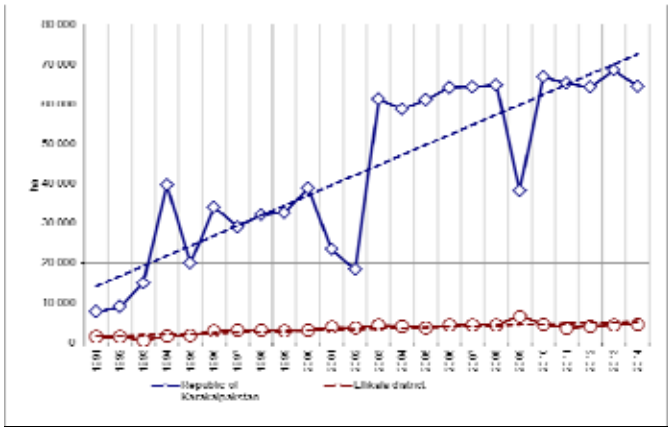
During the years of Independence there is growth in wheat area in both Elikkala district and in the Republic of Karakalpakstan. Wheat area in Elikkala district grew 3.2 times in 2014 compared to 1991. This growth was achieved essentially through the reduction of areas under cotton (33.8 %), rice (92.3 %) and corn (58.4 %) (Figure 2.6). Despite an increase in the wheat area, the share of Elikkala district in the Republic of Karakalpakstan sufficiently decreased: from 18.1 % in 1991 to 7 % in 2014 (Table 2.3).

Figure 2.5 shows sharp reduction of the areas under main crops in both Elikkala district and in the Republic of Karakalpakstan during the dry years (2001-2002).

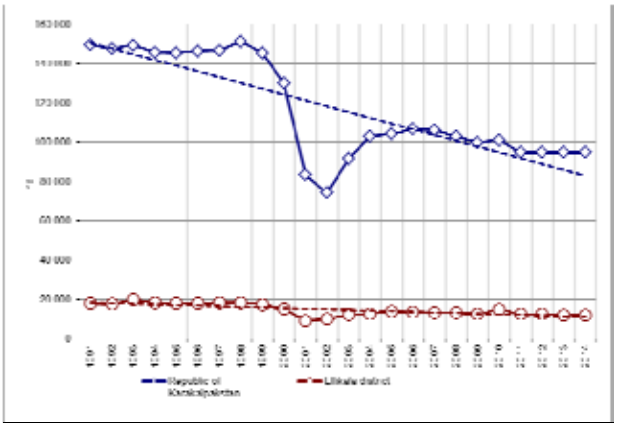
[2] Analysis was made for data since 1994 as before 1994 another national currency with different nominal value was used. Exchange rates were downloaded on 02.10.2015 from the web-site of the Central Bank of RUz: http://cbu.uz/uzc/section/rates.

Figure 2.6 Dynamics of areas under main crops in 1991-2014

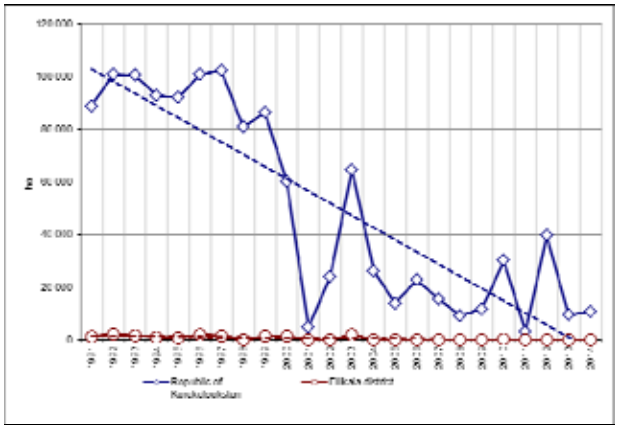
Wheat



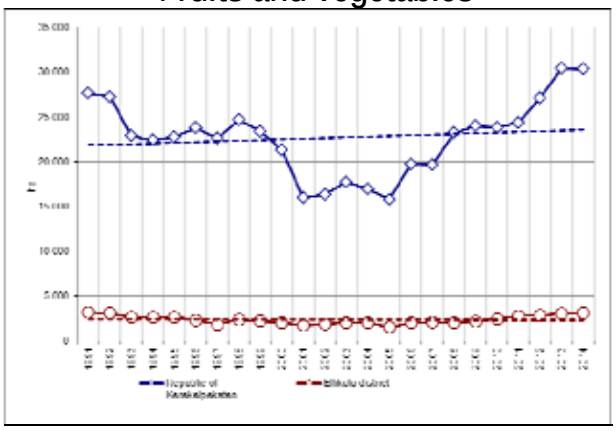
Cotton



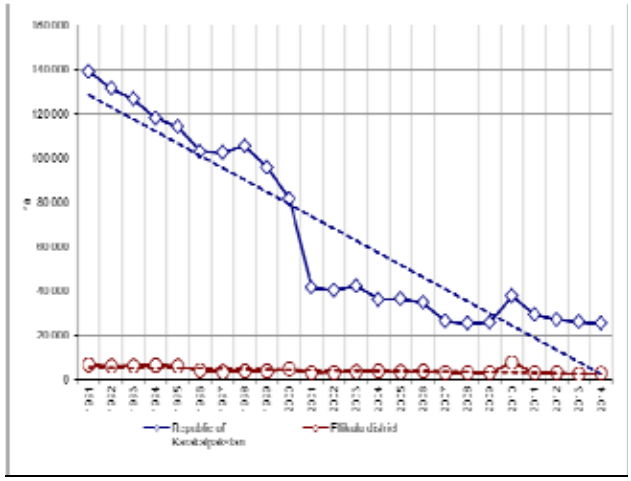
Rice



Fruits and vegetables



Corn



Source: estimated by the author on the basis of statistics from the Uzbek State Statistical Committee

From 2005 there is moderate growth of areas under potato, fruits and vegetables, cucurbits, and grapes in both Elikkala district and in the Republic of Karakalpakstan.

In terms of cotton area, the share of Elikkala district in the Republic of Karakalpakstan moderately increases: from 12% in 1991 to 12.5 % in 2014. As to corn, the district's share in the Republic grew substantially from 4.7% in 1991 to 10.8% in 2014 (Table 2.3).

Table 2.3

Dynamics of Elikkala district's share in cropping patterns in the Republic of Karakalpakstan in %

Crop	1991	1995	2000	2005	2010	2014
Wheat	18.1	9.0	7.8	6.1	6.7	7.0
Cotton	12.0	4.4	11.6	13.1	14.7	12.5
Rice	4.4	0.9	2.5	0.0	0.9	0.9
Fruits and vegetables	4.7	11.6	9.5	9.7	10.2	10.2
Corn	4.7	5.3	5.8	9.6	20.7	10.8

Source: estimated by the author on the basis of statistics from the Uzbek State Statistical Committee

2.3.3. Main crop production

Elikkala district plays an important role in agricultural production in the Republic of Karakalpakstan. Since independence, the district has increased production of main crops: wheat - 11 times; potato, fruits, vegetables, cucurbits, and grapes - 2.5 times; and, corn - by 21.4%. Production of rice and raw cotton has decreased by 37.0% and 32.4%, respectively (Table 2.4).

Table 2.4

Dynamics of main crop production in Elikkala district, 1991-2014, thousand tons

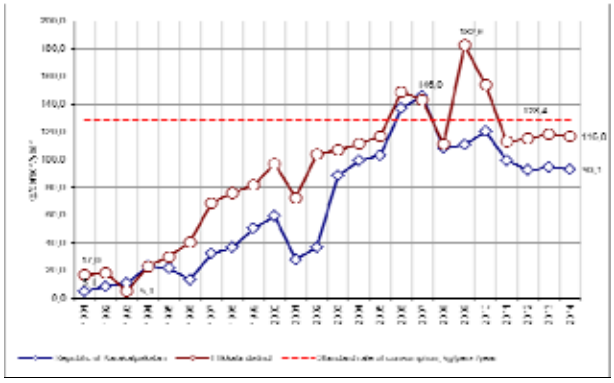
Crop	1991	1995	2000	2005	2010	2013	2014	Rate of growth/ decrease
Wheat	1.5	3.0	10.8	14.1	20.0	16.3	16.4	11.0 times
Raw cotton	41.2	40.2	15.5	28.4	25.3	28.9	27.8	-32.4%
Rice	0.9	0.9	1.6	0.0	1.7	0.9	0.6	-37.0%
Fruits and vegetables	15.4	17.6	13.1	14.8	29.5	38.3	39.0	2.5 times
Corn	1.4	0.8	0.4	0.3	0.8	2.2	1.7	21.4%

Source: estimated by the author on the basis of statistics from the Uzbek State Statistical Committee.

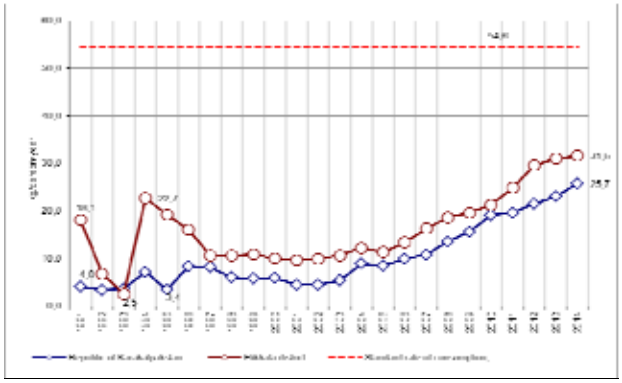
The high growth rate of vegetable production fully meets the standard rates of consumption that are recommended by the Uzbek Ministry of Health. However, despite quick growth of main crop production per capita, the current actual consumption of agricultural products remains low as compared to recommended standards (Fig. 2.7).

Fig. 2.7. Dynamics of main crop production per capita over 1991-2014[3]

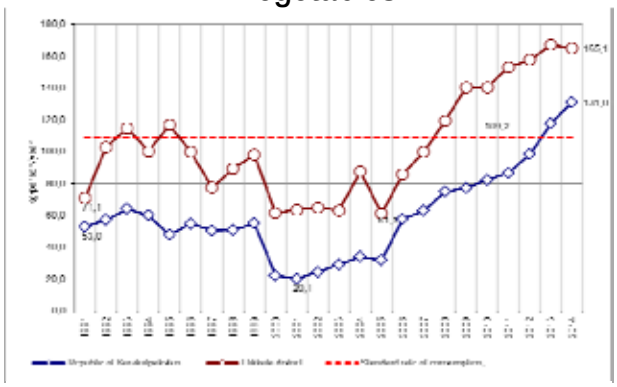
Wheat



Potato



Vegetables



Fruits and berries