



Zentrum für Entwicklungsforschung
Center for Development Research
ZEF Bonn



Economic and Ecological Restructuring of Land
and Water Use in Uzbekistan/Khorezm:
A Pilot Program in Development Research

ZEF Work Papers for Sustainable Development in Central Asia

No. 4

Analysis of the agricultural production for the individual rayons within the region Khorezm (Uzbekistan)

by

**Bahtiyor Ruzmetov
Zohid Rahimov
Inna Rudenko
Yussufian Sadikov and
Davran Begjanov**

Institute for Economics, State University of Urgench, Uzbekistan

Uzbekistan, March 2004

ZEF-Uzbekistan working papers contain preliminary material and research results from the ZEF/BMBF/UNESCO-Project on Economic and Ecological Restructuring of Land- and Water Use in the Region Khorezm (Uzbekistan). They are circulated prior to a peer review process to stimulate debate and to disseminate information as quickly as possible. Some of the papers in this series will be reviews and eventually be published in some other form, and their content may also be revised. The sole responsibility for the contents rests with the authors.

Project internet site: <http://www.khorezm.uni-bonn.de/>

№. 4

*Хоразм вилоятида (Ўзбекистон) айрим
туманларнинг қишлоқ хўжалиги ишлаб
чиқаришнинг таҳлили*

*Тайёрлагилар:
Бахтиёр Рўзметов
Зоҳид Раҳимов
Инна Руденко
Юсуфжон Соғиқов
Даврон Бекчанов*

*Иқтисодиёт факультети, Урганч Давлат Университети,
Ўзбекистон*

ҚИСҚАЧА КЎРИНИШ

Мазкур ишда келтирилган тадқиқотнинг мақсади Хоразм вилоятидаги «чиқимлар—ишлаб чиқариш» қишлоқ хўжалик модели ривожланишининг миқдорий таҳлилини ўтказишдан иборатдир. Бу ҳисобот билимлар базасини яхшилашга ва регионнинг иқтисодий қайта тузиш билан боғлиқ бўлган келгуси тадбирларни муҳокама қилишга ундайди.

Биринчидан, регионнинг қишлоқ хўжалиги секторининг миқдорий таҳлили ўтказилади, лекин у билан боғлиқ бўлган чиқимлар ва маҳсулотлар вилоят миқёсидаги қишлоқ хўжалиги корхоналарининг турли шаклларига киритилади.

Иккинчидан, вилоят қишлоқ хўжалиги секторининг таҳлили 10 йиллик давр учун ҳар хил қишлоқ хўжалиги ишлаб чиқарувчиларнинг фойдаланишда ва ишлаб чиқаришда содир бўлаётган ўзгаришлар ҳамда қишлоқ хўжалиги ишлаб чиқарувчиларнинг ишлаш учун афзал кўрган хўжаликларнинг тузилишидаги ўзгаришлар ва ривожланиш жараёнларини аниқлаш йўли билан туман миқёсида ўтказилади.

Таҳлил натижалари қуйидагиларни кўрсатади:

- 1. Кўпчилик ширкат хўжаликлари давлат томонидан қўллаб қувватлашига қарамай катта зарар кўряптилар. Бу асосан қониқарсиз бошқариш услублари, юқори ишлаб чиқариш чиқимлари, келишувномалар бажарилмаётганлиги ва техника эскирганлиги натижасида содир бўлади.*

2. *Хоразм вилоятида хусусий фермер хўжалиklarининг умумий сони тобора ўсиб бораётганлигининг асосий сабаблари сифатида янги қонунларнинг қабул қилиниши, катта ва кичик бизнеснинг ривожланиши ва фойда бермаётган ширкат хўжалиklarини фермерлар ва деҳқонлар хусусий ассоциацияларига айлантирилиши деб кўрилиши мумкин.*
3. *Вилоят ва туман ассоциацияларида тренинглр ёки бошқа бир ўқитиш курслари олиб борилмаяпти. Шундан келиб чиқадиган бошқарувдаги ва қонунчиликдаги камчиликлар кучли бўлмаган иқтисодий фаолиятни қийинлаштиради.*
4. *Хўжалиklarга кредит олиш мумкинлиги регионнинг ижтимоий—иқтисодий фаолияти ва хусусан Хоразм вилояти қишлоқ хўжалиги секторида хўжалиklar миқёсидаги қишлоқ хўжалиги ишлаб чиқаришнинг муҳимлигини етарлича намойиш қилмайди.*

Хулоса қилиб юқорида айтиб ўтилган натижалар асосида ўқитишни яхшилаш, ҳаражатларни камайтириш учун қишлоқдаги оилаларга кредит бериш имкониятларини кўпайтириш, рентабелликни ошириш ва Хоразм қишлоқ хўжалиги секторида келгуси сармоялар учун имкониятларни ошириш таклиф қилинади.

¹Закон ў Республика Узбекистан "О Сельскохозяйственных Кооперативах (Ширкатах)" (от 30.04.1998); "О Частных Хозяйствах " (от 30.04.1998); "О Дехканских Хозяйствах" (от 30.04.1998) и другие нормативные документѹ.

№. 4

Анализ сельскохозяйственного производства в отдельных районах Хорезмской области (Узбекистан)

**Подготовлено:
Бахтияр Рузметов
Зоҳид Раҳимов
Инна Руденко
Юсуфжон Содиков
Даврон Бекчанов**

**Факультет Экономики, Ургенчский Государственный Университет,
Узбекистан**

КРАТКИЙ ОБЗОР

Целью исследования, представленного в данной работе, является проведение количественного анализа развития сельскохозяйственной модели «затраты-производство» Хорезмской области. Этот отчет призван улучшить базу знаний и способствовать обсуждению предстоящих мер в отношении экономической реструктуризации региона.

Во-первых, проводится количественный анализ сельскохозяйственного сектора региона, а характерные затраты и продукция приписываются различным формам сельскохозяйственных предприятий в масштабе области.

Во-вторых, анализ сельскохозяйственного сектора области проводится на уровне района за десятилетний период времени путем определения процессов развития и перемен, происходящих в производстве и сфере потребления у различных сельскохозяйственных производителей, а также изменения в структуре хозяйств, в которых сельскохозяйственные производители предпочли работать.

Результаты анализа показывают следующее:

1. Большинство ширкатных хозяйств терпят большие убытки несмотря на поддержку государства. Это происходит, в основном, вследствие неудовлетворительных методов управления, высоких производственных затрат в целом, неисполнения договоров и износа техники.

2. В качестве главных причин стремительного роста общего числа частных фермерских хозяйств в Хорезмской области могут рассматриваться принятие новых законов², развитие малого и среднего бизнеса и реорганизация нерентабельных ширкатных хозяйств в частные ассоциации фермеров и дехкан².
3. В областных и районных ассоциациях не проводятся тренинги или какие-либо курсы обучения. Исходящие из этого недостатки в управленческих навыках и ноу-хау в менеджменте и законодательстве усугубляют слабую экономическую деятельность.
4. Доступ хозяйств к получению кредита недостаточно демонстрирует важность сельскохозяйственного производства на уровне хозяйств для социально-экономической деятельности региона в целом и сельскохозяйственного сектора Хорезмской области в частности.

В заключении на основе вышеупомянутых результатов предлагается улучшение средств обучения и увеличение возможности предоставления кредитов сельским семьям для снижения затрат, повышения рентабельности и предоставление возможности для дальнейшего инвестирования в сельскохозяйственный сектор Хорезма.

²Закон ы Республики Узбекистан "О Сельскохозяйственных Кооперативах (Ширкатах)" (от 30.04.1998); "О Частных Хозяйствах " (от 30.04.1998); "О Дехканских Хозяйствах" (от 30.04.1998) и другие нормативные документы.

TABLE OF CONTENTS

1	Introduction.....	1
1.1	Project information	1
1.2	Aims and objectives.....	1
1.3	Structure.....	1
2	Developments in agricultural output for the Khorezm region.....	2
3	Analysis based on macroeconomic indices of all rayons in the Khorezm region.....	8
3.1	Shirkats	9
3.2	Subsidiary farms.....	9
3.3	Households (Dekhans).....	10
4	Conclusions	13
5	Appendix.....	15
5.1	Appendix # 1 – Bagat rayon.....	15
5.2	Appendix #2 Gurlen Rayon.....	19
5.3	Appendix #3 Kushkupir.....	22
5.4	Appendix #4 Urgench.....	27
5.5	Appendix #5 Khazarasp.....	32
5.6	Appendix #6 Khonka.....	35
5.7	Appendix #7 Khiva.....	39
5.8	Appendix #8 Shavat.....	42
5.9	Appendix #9 Yangiarik.....	45
5.10	Appendix #10 Yangibazar.....	48

LIST OF TABLES AND FIGURES

Table 5.1:	Cropping area for the Bagat rayon; in ha.....	15
Table 5.2:	Agricultural production in the Bagat rayon.....	16
Table 5.3:	Machinery in the Bagat rayon as on 06.06.2003.....	16
Table 5.4:	Taxation in the Bagat rayon; in thousand Soum.....	17
Table 5.5:	Amount of debt written off by the government in December 2001; in thousand Soum	17
Table 5.6:	Water consumption in the Bagat rayon; in million m ³	18
Table 5.7:	Cropping area for the Bagat rayon in ha.....	19

Table 5.8: Agricultural production in the Gurlen rayon.....	19
Table 5.9: Machinery in the Gurlen rayon as on 06.06.2003.....	20
Table 5.10: Taxation in the Gurlen rayon; in thousand Soum.....	20
Table 5.11: Water consumption in the Gurlen rayon; in million m ³	20
Table 5.12: Debts written off by the government in December 2001; in thousand Soum.....	21
Table 5.13: Crop area in Kushkupir rayon; in ha.....	21
Table 5.14: Agricultural production in the Kushkupir rayon.....	22
Table 5.15: Machinery in the Kushkupir rayon as on 06.06.2003.....	22
Table 5.16: Water consumption in the Kushkupir rayon; in million m ³	23
Table 5.17: Debts written off by the government in December 2001; in thousand Soum.....	23
Table 5.18: Taxation in the Kushkupir rayon; in thousand Soum.....	23
Table 5.19: Crop area in the Urgench area; in ha.....	24
Table 5.20: Agricultural production in the Urgench rayon.....	24
Table 5.21: Machinery in the Urgench rayon as on 06.06.2003.....	25
Table 5.22: Taxation in the Urgench rayon; in thousand Soum.....	25
Table 5.23: Debts written off by the government in December 2001; in thousand Soum.....	26
Table 5.24: Water consumption in the Urgench rayon; in million m ³	26
Table 5.25: Crop area in the Khazarasp rayon; in ha.....	27
Table 5.26: Agricultural production in the Khazarasp rayon.....	27
Table 5.27: Machinery in the Khazarasp rayon as on 06.06.2003.....	28
Table 5.28: Taxation in the Khazarasp rayon; in thousand Soum.....	28
Table 5.29: Taxation in the Khazarasp rayon; in thousand Soum.....	28
Table 5.30: Debts written off by the government in December 2001; in thousand Soum.....	29
Table 5.31: Water consumption in the Khazarasp rayon; in million m ³	29
Table 5.32: Cropping area in the Khonka rayon; in ha.....	30
Table 5.33: Agricultural production in the Khonka rayon.....	31
Table 5.34: Machinery in the Khonka rayon as on 06.06.2003.....	31
Table 5.35: Taxation in the Khonka rayon; in thousand Soum.....	32
Table 5.36: Debts written off by the government in December 2001; in thousand Soum.....	32
Table 5.37: Water consumption in the Khonka rayon; in million m ³	33
Table 5.38: Cropping area in the Khiva rayon; in ha.....	34
Table 5.39: Agricultural production in the Khiva rayon.....	34
Table 5.40: Machinery in the Khiva rayon as on 06.06.2003.....	35
Table 5.41: Taxation in the Khiva rayon; in thousand Soum.....	35

Table 5.42: Debts written off by the government in December 2001; in thousand Soum.....	36
Table 5.43: Water consumption in the Khiva rayon; in million m ³	36
Table 5.44: Cropping area in the Shavat rayon; in ha.....	37
Table 5.45: Agricultural production in the Shavat region.....	37
Table 5.46: Machinery in the Shavat rayon.....	38
Table 5.47: Taxation in Shavat rayon; in thousand Soum.....	38
Table 5.48: Debts written off by the government in December 2001; in thousand Soum.....	39
Table 5.49: Water consumption in the Shavat rayon; in million m ³	39
Table 5.50: Cropping area in the Yangiarik rayon; in ha.....	40
Table 5.51: Agricultural production in the Yangiarik rayon.....	41
Table 5.52: Machinery in the Yangiarik rayon as on 06.06.2003.....	41
Table 5.53: Taxation in the Yangiarik rayon; in thousand Soum.....	42
Table 5.54: Debts written off bay the Government in December 2001; in thousand Soum.....	42
Table 5.55: Water consumption in the Yangiarik rayon.....	43
Table 5.56: Cropping area ion the Yangibazar rayon; in ha.....	43
Table5.57: Agricultural production in the Yangibazar rayon.....	44
Table 5.58: Taxation in the Yangibazar rayon; in thousand Soum.....	44
Table 5.59: Machinery in the Yangibazar rayon.....	45
Table 5.60: Debts written off by the government in December 2001; in thousand Soum.....	45
Table 5.61: Water consumption in the Yangibazar rayon.....	45
Figure 2.1: Khorezm's gross agricultural product in 2000.....	2
Figure 2.2: Sales of cotton products in 2000.....	3
Figure 2.3: Sales of cotton products in 2001.....	3
Figure 2.4: Animal production in 2001.....	4
Figure 2.5: Milk production in 2000.....	5
Figure 2.6: Milk production in 2001.....	5
Figure 2.7: Egg production in 2000.....	6
Figure 2.8: Egg production in 2001.....	6
Figure 2.9: Contribution to total agricultural production in Soum.....	7

GLOSSARY OF IMPORTANT TERMS

Dekhan:	Household farm operation or household production unit and gardens of families, normally not larger than 0.25 ha.
Hokim:	Governor of the region or a district.
Oblast:	Administrative unit referring to a region.
Pudrat:	Family brigade working on Shirkats
Rayons:	Administrative unit referring to a district.
Shirkat:	Former Kolkhoz or Sovkhoz now run as a collective farm which sub-contracts land to family brigades

LIST OF ABBREVIATIONS

AIC:	Agro-Industrial-Complex
BMBF:	German Ministry for Education and Science
FA:	Private Farms
GDP:	Gross Domestic Product
MTS:	Machine Tractor Stations
HH:	Households
OAE:	Other Agricultural Enterprises than Shirkats and Private farms
SH:	Shirkat
UNESCO:	United Nations Educational, Scientific and Cultural Organization
UrSu:	State University of Urgench
ZEF:	Center for Development Research, Bonn

ABSTRACT

The aim of the research, presented in this work paper, is to present a quantitative analysis of developments in the agricultural input/output-pattern of the region Khorezm. This report should improve the knowledgebase and stimulate discussion of future efforts towards economic restructuring of the region.

First, the regions agricultural sector is analyzed quantitatively and the specific inputs and outputs are ascribed to the different forms of agricultural enterprises within the region.

Second, an analysis of the regions agricultural sector is undertaken on the rayon level over a ten year time span, measuring changes and developments in the production and consumption patterns of the different agricultural producers as well as changes in the preferred farm structure under which agricultural producers chose to operate.

Results of this analysis show that:

1. Many Shirkat enterprises suffer great losses despite governmental support. Mainly as a result of insufficient management skills, generally high costs of production, low fulfillment of contracts and worn out machinery.
2. The adoption of new laws³, the development of small and medium size businesses and the reorganization of unprofitable shirkats into associations of private farmer and Dehkan enterprises can be cited as the main reasons for the rapid increase in the total number of private farm enterprises in the Khorezm region.
3. Regional associations and associations of rayons do not offer any training or learning courses. The resulting deficiencies in farm management skills and know-how concerning management and legislation exacerbate poor economic performance.
4. A household's access to credit does not sufficiently represent the importance which agricultural production on the household level has for the regions' overall socio-economic performance and especially that of Khorezm's agricultural sector.

The conclusions derive directly from the aforementioned results and advocate the improvement of training facilities and an increase in rural households with access to credits, in order to lower costs, enhance profitability and allow for further investment to take place in Khorezm's agricultural sector.

³ Laws of the republic of Uzbekistan "On the Agricultural Cooperative (Shirkat)" (30.04.1998); "On Private Farms" (30.04.1998); "On Dekhan Farms" (30.04.1998) and other normative acts.

1 INTRODUCTION

1.1 Project information

The following report is part of the ZEF/BMBF/UNESCO project “Land and Water Use Restructuring in Uzbekistan/Khorezm”. The main objective of the project is to establish a research program that combines proposals for restructuring of the landscape with proposals for legal-administrative reorganization in order to utilize human and natural resources more efficiently.

Economic studies within the project are devoted to the operational analysis of individual farms (kolkhozes) and to the investigation of economic incentives for saving water, e.g., a water price based on an economic "River Basin" model. In addition, socio-economic consequences of different forms of land and water use restructuring are being investigated.

1.2 Aims and objectives

This report sights extensive empirical and statistical data of the region’s agricultural sector and uses selected macroeconomic indices to provide an analysis of the individual performances of the various rayons and the different major farm types within the Khorezm region.

1.3 Structure

Section 2 of this report is concerned with recent developments in the agricultural output of the Khorezm region. In Section 2 various aspects of Khorezm’s agricultural production are compared quantitatively in their development from the year 2000 to the year 2001.

Section 3 is an analysis of the region’s rayons based on a set of macroeconomic indices and undertaken over a ten year time span. The different farm types, the area under production and the changing conditions under which they produce are the main focus of this analysis.

2 DEVELOPMENTS IN AGRICULTURAL OUTPUT FOR THE KHOREZM REGION

Khorezm's Gross Agricultural Output (GAO) in 2001 was 104.1 percent of its value for the year 2000. In 2000 the share of crop production in GAO was 46.7 percent, while the share of livestock production amounted to 53.3 percent.

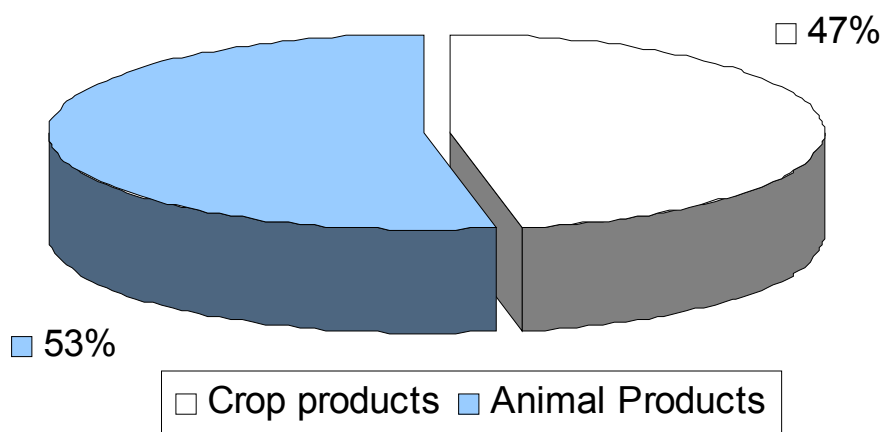


Figure 2.1: Khorezm's gross agricultural product in 2000

In 2001 the respective shares within production did not change significantly. In 2000 the share of agricultural enterprises⁴ (Shirkats), private farmers and household plots in GAO were 25.9 percent, 3.2 percent and 70.9 percent respectively, and in 2001 these numbers changed to 39.4 percent, 4.2 percent and 56.4 percent. Shirkats increased most significantly by nearly 14 percentage points (39.4-24.9). In 2000 the amount of sold cotton was 10.4 billion Soum⁵. In 2001 this figure increased to 19.4 billion Soum, i.e. by roughly 80%.

⁴ i.e. Shirkats

⁵ 50% on state order and 50% on negotiated price

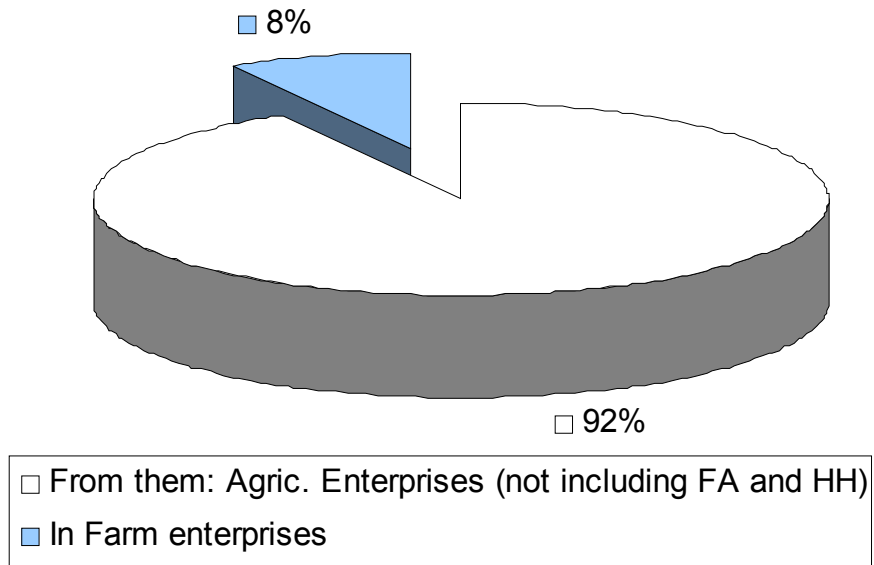


Figure 2.2: Sales of cotton products in 2000

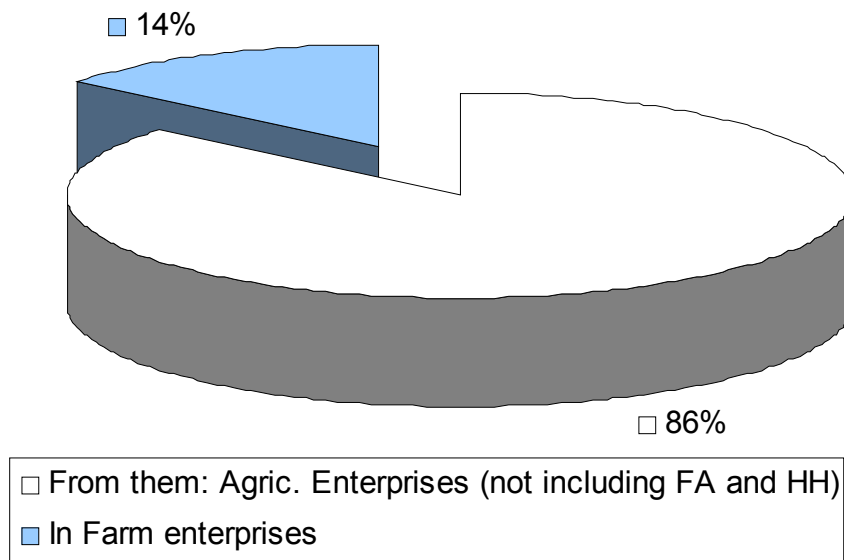


Figure 2.3: Sales of cotton products in 2001

In 2001, the major share of meat production was contributed by household plots⁶, while private farms and shirkats contributed only marginal amounts, i.e. 2.8 percent and 5.4 percent respectively.

⁶ 91.8 percent of meat came from household plots

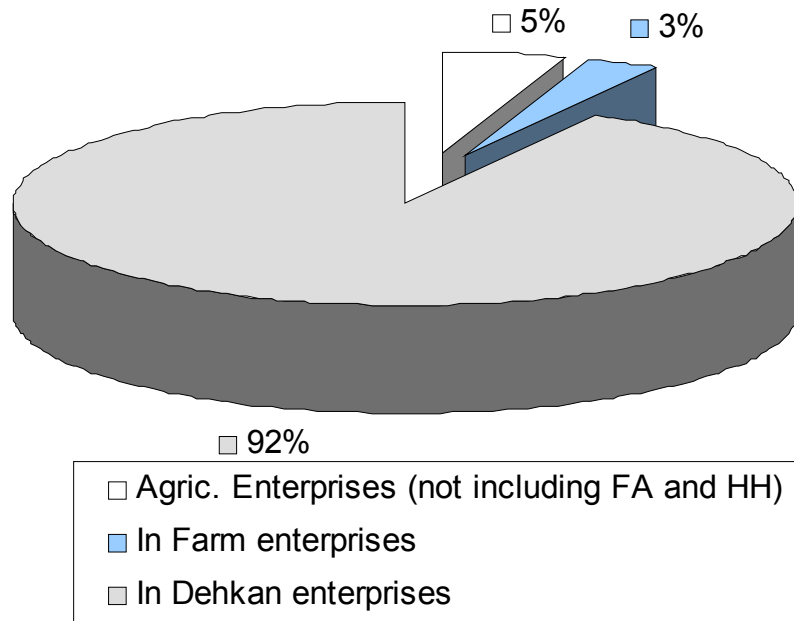


Figure 2.4: Animal production in 2001

Since the year 2000, the share of households and private farms involved in overall meat production has increased each year, while the share of other agricultural enterprises (OAE)⁷ has decreased.

Milk production has shown similar trends. In 2000 94.9 percent of all milk was produced by household plots. OAE's produced 3.7%, and Shirkats produced 1.4%. In 2001 the respective production shares were 96.8 % and 1.6% percent respectively.

⁷ the term „other agricultural enterprises“ (OAE) is used for all agricultural enterprises bar private farms and household plots

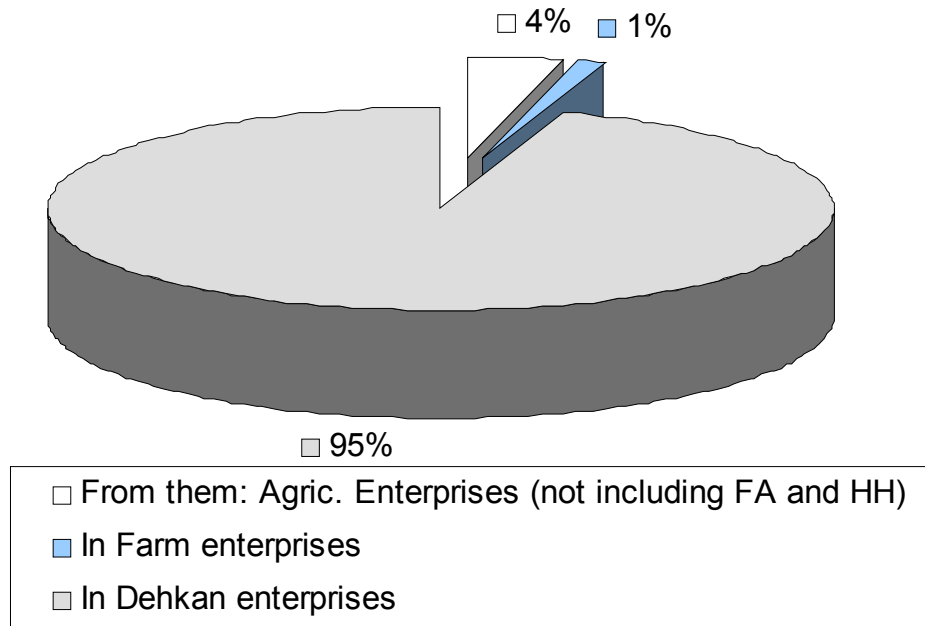


Figure 2.5: Milk production in 2000

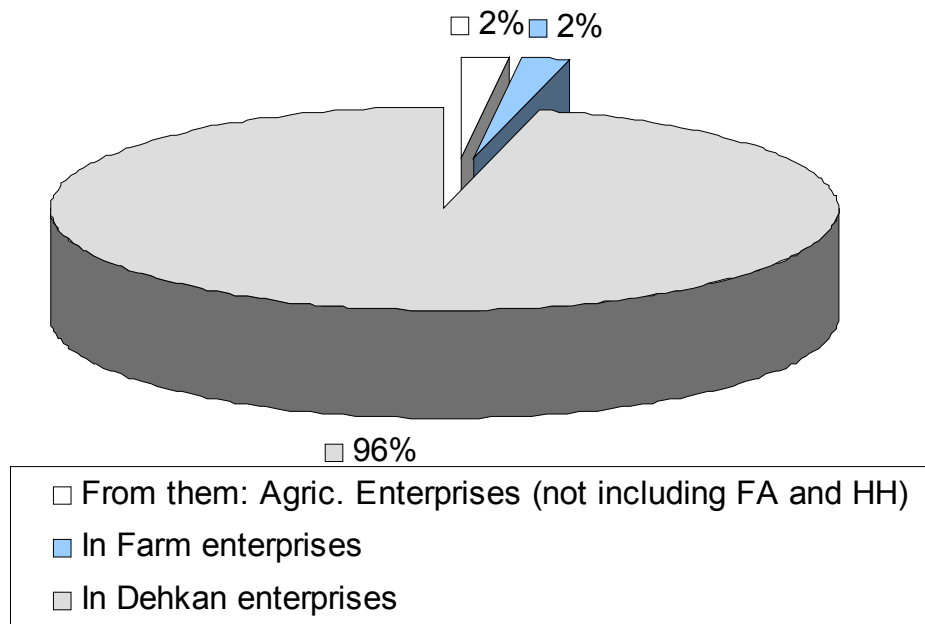


Figure 2.6: Milk production in 2001

In 2000 the share of households in the overall production of eggs was 79 %. Private farmer enterprises contributed 1.3 %, and Shirkats produced 19.7 % percent. In 2001 the respective figures were 79.6 % for households, 1.3 % for Shirkats and 19.1 % for other agricultural enterprises.

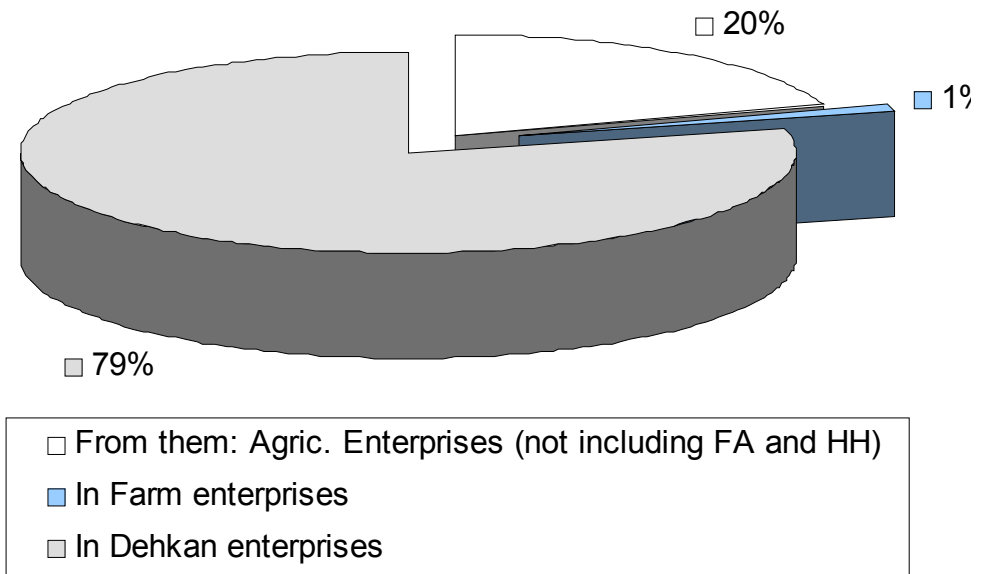


Figure 2.7: Egg production in 2000

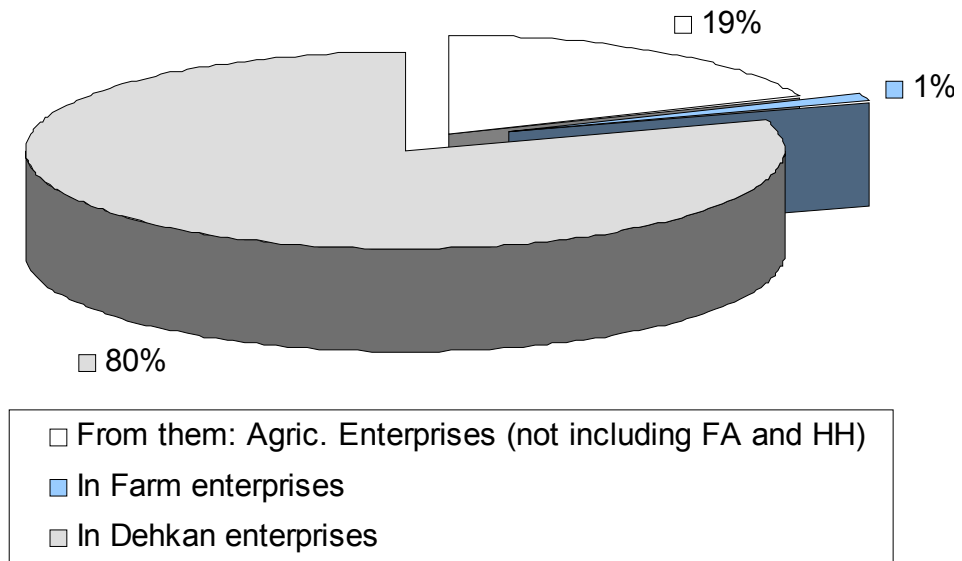


Figure 2.8: Egg production in 2001

The average yield of milk from one cow in 2000 amounted to 1996 liters, and increased in 2001 by 6 percent to 2083 liters. Although the average number of eggs laid by one hen increased for all forms of agricultural enterprises in the region, the increase was greatest for OAE's, where increase figured around 26.6 %, and for private farmer enterprises, where the number of eggs per hen almost doubled between 2000 and 2001.

Most of the proceeds from private farmer enterprises are generated in the rayons Urgench (27.3 percent), Yangibazar (20.1 percent) and Bagat (19.8 percent). This stands in connection with the fact that in these rayons many shirkat enterprises were transformed to associations of private farmer enterprises and into Dehkan enterprises. The rayons whose private farmer enterprises generate the least earnings are found in Shavat, from which 1.4 % of proceeds come, and in Khazarasp, which generates 2.3% of the proceeds earned by private farmer enterprises.

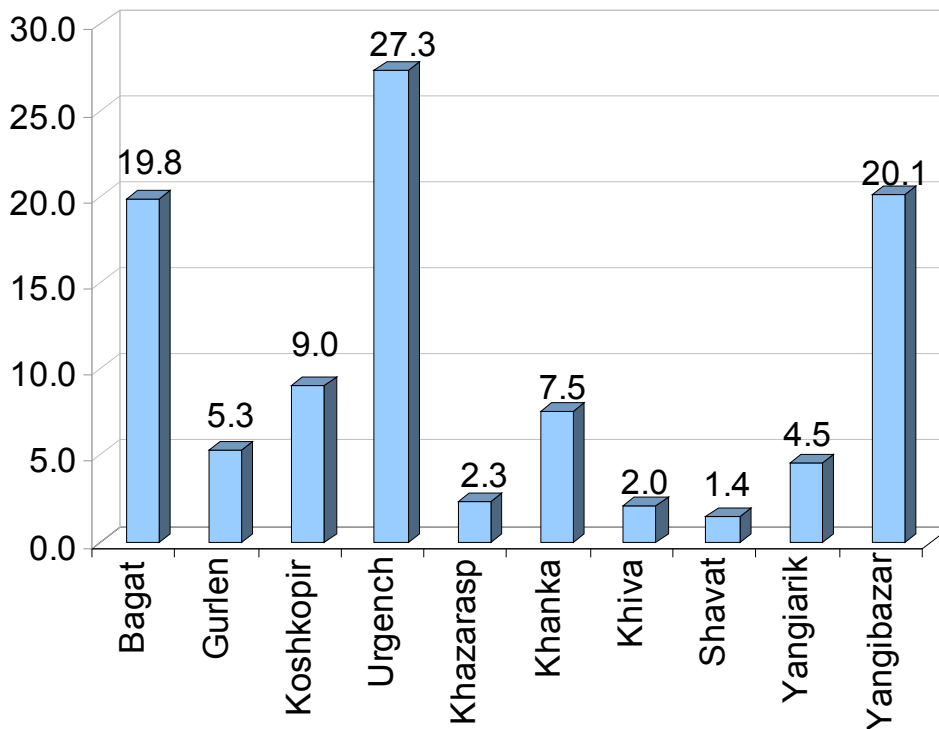


Figure 2.9: Contribution to total agricultural production in Soum

3 ANALYSIS BASED ON MACROECONOMIC INDICES OF ALL RAYONS IN THE KHOREZM REGION.

The following analysis was carried out at the rayon level. It was undertaken in three steps:

1. Analyses of the different farm types.
2. Analyses of the area of land under cultivation.
3. Analyses of the production process of various agricultural products.

The analysis was undertaken, by first identifying various economic indices for the different rayons, capable of representing economically relevant factors, such as population, employment, unemployment, gross production, volume of total agricultural production, volume of production for the different agricultural crops, total yields (i.e. including yields from households), main yields (i.e. yields excluding households), sown area, production of meat, milk and eggs, industry, small and medium size businesses, joint ventures, etc.

In the period of 1997-2001 the population of the Khorezm region increased by 7.3 %. In the rayon Urgench this figure reached 10 % and in Khiva the population grew by 8.2 %, while in Urgench city the population decreased by 0.6 %.

As a result of the drought and water shortage which struck Khorezm in 2000-2001, gross agricultural production slightly decreased during that time, so that in 2001 gross agricultural production was only 98.3 % of what it had been in 1997; the greatest decreases being measured in the rayons Kushkupir, Khiva and Yangiariq. As the individual rayons differ in crop specialization and in terms of climate and soil quality, the state order differs for the individual rayon. Instead of uniformly setting an order for absolute quantity and average yield, the state order is set for each rayon according to its specialization, the quality of its soil and the details of its climate. For example:

Cotton was mostly grown in Khonka and Gurlen, where the amounts produced were 33946 tons and 32144 tons respectively. In contrast Yangiariq grew only 11450 tons and Pitnak, even less, only 5173 tons. The production of rice was greatest in Yangibazar, where it reached 3958 tons, and in Gurlen, which produced 4743 tons. The rayons with the least rice production were Shavat, which produced 46 tons, and Yangiariq, which produced 29 tons. For wheat, the rayons with the greatest production were Khanka and Shavat, with 17075 tons and 15906 tons produced respectively, while in Yangiariq and Pitnak only 7432 and 2235 tons of wheat were harvested. Crop production, area sown,

machinery, taxation, amount of debts written off by the government and water consumption by rayons in 2001-2002 are shown in appendices. In 1998-2001 collective farms were transformed into Shirkat enterprises, Dehkan enterprises, or associations of individually owned private farms. In 2001 the number of newly formed Shirkat enterprises was largest in the rayons of Kushkupir (13.6% of newly created Shirkats), Urgench (12.0%) and Shavat (12.8%). In all other rayons the number of newly formed Shirkats ranged, rather similarly, between 7.5-9.5 percent. The area under cultivation by Shirkat enterprises has decreased since 1998, where 192.8 thousand ha were under cultivation. In 2001 the area under cultivation by Shirkat enterprises was 144 thousand ha, i.e. about 50 thousand ha less than in 1998. One cause for this decrease may be the rapid growth in the number of private farms during the same period of time.

3.1 Shirkats

An indicator reflecting the average sown area has shown a decrease of the area on which Shirkat enterprises sow crops. The decrease was measured at 23% and on an average each rayon now sows 1523 ha of land. The largest totals, for this figure, are measured in the rayons Gurlen and Hanka, which sow 1560 ha, while the smallest are found in Yangiariq, Urgench and Kushkupir, which use between 890 and 960 ha for sowing. Shirkats receive governmental support in the form of subsidized credits, direct agricultural input, and debt restructuring. Shirkats are the main producers of cotton and rice in the Khorezm region, yet many Shirkats suffer great losses, have worn out machinery, are unable to make new investments and have problems with accounting. Extremely high production costs, low fulfillment of contracts and insufficient management skills can be cited as primary reasons for this situation.

Unprofitable Shirkats are transformed into Associations of Farmer and Dehkan Enterprises. Today there are 2-3 such associations in each rayon and their number is likely to grow.

3.2 Subsidiary farms

Subsidiary farms have the smallest role in Uzbek agriculture. They account for 1-2 % of total agricultural production and they cultivate a little over 1% of the area under agricultural cultivation. Nevertheless, they are able to use financial, material and technical resources as well as other equipment because they belong to the big “mother” enterprises, industrial corporations and educational organizations. Farm workers use subsidiary farms

as an additional source of income. From 1998 to 2001 the number of subsidiary farms increased by 30%, so that in 2001 there were 167 thousand such farms. Their incidence increased in the rayons of Urgench, Yangiariq, Gurlen and Bagat. However, the increase in the number of subsidiary farms did not coincide with an increase in the actual area under cultivation by such farms. In contrast, the area cultivated by subsidiary farms decreased by 20 percent between 1998 and 2001. Total cultivated area measured 5.6 thousand ha in 1998 and 4.5 thousand ha. in 2001. The largest decreases occurred in the rayons Khiva (44% decrease), Shavat (36% decrease) and Urgench (46% decrease).

3.3 Households (Dekhans)

In 2001, 117.4 thousand households were active participants in the region's agricultural production. In comparison to 1998, this is an increase of 35.4%. The largest amounts of household farm operations are found in the rayons Bagat, Kushkupir and Urgench, where roughly 20.1 thousand households of each rayon are engaged in agricultural production. The least - a respective 10.2 thousand households - are found in the rayon Yangibazar. In the year 2001 the number of households increased by 4%, which indicates a possible stabilization in the organizing process of households. It is necessary to note that more and more household operations are attempting to become legal entities today.

Although the number of households increased, the area sown by household operations remained at 28 thousand ha, as increases in a number of rayons were offset by decreases in others. Rayons, in which the area under production increased, are Yangiariq (27.8% increase), Shavat (8% increase), Hanka (8.9% increase), Gurlen (8.2% increase) and Bagat (6.2% increase). Decrease occurred in rayons such as Kushkupir, Urgench, Hazarasp, where decreased figured between 10 and 12%. The average area, households used for sowing, is close to 0.2 ha for all rayons. Only in Yangibazar and Khiva does it differ, with an average of 0.3 ha for each household in Yangibazar and 0.1 ha for each household in Khiva. Variation of sown area may therefore partly be retraced to varying population densities in different villages.

One of the main changes in the agricultural sector has been the reorganization of big collective enterprises. In a short period of time all the kolkhozes and Sovchozes were reorganized. Mainly this reorganization took place in the form of transformation, i.e. the transformation of these collective enterprises into production cooperatives, based on partial ownership and dependant on shares. Obviously, simply renaming what was formerly a kolkhozes and calling it a stock company instead would not suffice as a new

motivating mechanism for workers. Moreover, it was envisioned that formally and legally disconnecting these agricultural structures from the state system of financing, sale, distribution and provision would lead to significant changes in the inner structures of these enterprises and to them adapting to the new market environment. It is not surprising that these efforts have, as yet, not been able to yield any clearly distinguishable results, since such changes naturally require a longer period of time. Nevertheless, some socio-economic developments which have already taken place, can very well be attributed to these first steps of reorganization:

First of all, agricultural enterprises show greater independence in their economic activities. There is an obvious awareness of connections between the prices of agricultural products and the volume of production among agricultural agents. And while rapid growth of the main agricultural input resource prices has led to a decrease in their demand, they have also given incentive to a more effective employment of such resources. In 2001 the total number of household operations in Khorezm totaled 177,364. Uzbek households used to produce agricultural products mostly for their own consumption. Only a small part of households sold their products in the local markets. During the last few years however the situation has changed. Today one may claim that the role which households play in agricultural markets can hardly be overestimated: Apart from cotton production, households are the main productive units of Khorezm's agricultural sector. A great variety of agricultural products is produced by households. The greater part of these products is consumed directly by household members or is used to feed domestic animals and poultry. The remaining part is sold in local markets; to which households usually carry grain, potatoes, onions, carrots, fruits, meat, milk and eggs.

Household plots are of great importance for rural family's budgets, as they help to reduce monetary consumer expenditures for food products. Households invest significantly in animal husbandry and thereby contribute significantly to the overall food basket of households. This sector contributed significantly to the population's survival during Uzbekistan's transition to a market economy in the period since independence and during the process in which economic reforms were intensified. On the other hand the rapid growth of private farm enterprises seems to be attracting more and more households. In contrast to private farms, households often do not have access to the machinery and the fertilizer they need and while they do have access to labor, their access to retail markets is poor. It is notable that workers already employed in other occupations, such as teachers, doctors and others, are also involved in household production. Despite their importance to

agricultural production, households have only poor access to credits. Though the work in households cannot be considered as permanent employment or even a fulltime job, for many families, having household plots has become a main and stable source of income. For a certain part of the Uzbek society, household plots have become the main determinant of income and consumption levels.

4 CONCLUSIONS

1. Extremely high costs of production, low fulfillment of contracts and insufficient management skills can be cited as primary reasons why many Shirkat enterprises suffer great losses, have obsolete machinery and are often unable to make new investments, despite receiving government support in forms of subsidized credits, direct agricultural input and in the form of debt restructuring.
2. While rayons differ in the average size of private farm enterprises, the average size of the area cultivated by each private farm and the soil quality, the number of private farmer associations and Dekhan enterprises is likely to increase in each of the rayons. The adoption of new laws⁸, the development of small and medium size businesses and the reorganization of unprofitable Shirkats into associations of private farmer and Dehkan enterprises can be cited as the main reasons for the rapid increase in the total number of private farm enterprises in the Khorezm region.
3. Farmers frequently fail to fulfill all the conditions of their contracts with agricultural organizations. Thus they are penalized for this failure according to their contracts, realize significantly lower product prices and suffer losses.
4. Regional associations and associations of rayons do not offer any training or learning courses. The resulting deficiencies in the knowledge about farm management and legislation exacerbate poor economic performances.
5. Household production activity is an important area of the Uzbek economy which allows the rural population to use their labor to produce agricultural products, i.e. it helps to reduce unemployment, makes important contributions to the overall food basket and is of great importance to family budgets. Yet, households have only poor access to credits.

⁸ Laws of the republic Uzbekistan "On the Agricultural Cooperative (Shirkat)" (30.04.1998); "On Private Farms" (30.04.1998); "On Dekhan Farms" (30.04.1998) and other normative acts.

REFERENCES

- Beknazov N (1995) Nature preservation. Tashkent:
Dordrecht: Kluwer Academic Publishers.
- Husanov (6/2003) Household development under agrarian reforms. Urgench: Uzbekistan
Economic Herald.
- Kutlikov (4/2003) The future development of private farms. Urgench: Uzbekistan
Economic Herald.
Russia's Agrofood Sector - Towards truly functioning markets.
- Ruzmetov B (2002) Regional economy: experience, problems, efficiency of complex
development. Tashkent: Fan .
- Serova E (1999) Agrarian Economics. Moscow:
- Wehrheim P, Frohberg K, Serova E, Von Braun J (2001)
- Zeddies J, Reish E, Ugarov (2000) Economics of agricultural enterprises. Moscow:

The following references have been taken from the "Law of the Republic of Uzbekistan":

- Law on Shirkats; April 30th 1993 (last updated December 25th 1998)
- Law on Dekhan enterprises; April 30th 1993 (last updated December 15th 2000)
- Decree of the President of the Uzbek Republic, concerning the most important guidelines for
continuing reforms in the agricultural sector; March 24th 2003
- Decree of the President of the Uzbek Republic, concerning the conceptualized development of
farm enterprises during the period of 2004 to 2006
- Decree of the Uzbek Republic's Cabinet of Ministers concerning additional measures for
financial assistance, technical supply, tax reduction, financial and other services to
small and medium-sized enterprises, Dekhan and private farm enterprises;
September 10th 2001
- (Russian versions are available at GTZ and PRAVO. English versions have not yet been
published.)

5 APPENDIX

The appendix is divided into 10 subparts, of which each one contains a certain data set for a specific rayon. Each of the 10 data set contains data concerning one rayon's cropping area, agricultural production, tax situation, technical equipment or the level of its water consumption. The rayons, for which these data sets were generated, are noted in the individual headings of each subpart and include the rayons Bagat, Gurlen, Kushkupir, Urgench, Khazarasp, Khonka, Khiva, Shavat, Yangibazar and Yangiarik.

5.1 Appendix # 1 – Bagat rayon

Table 5.1: Cropping area for the Bagat rayon; in ha

		Cotton	Wheat	Rice
1998	SH	8456	1535	2992
	FA	86	41	192
	HH	-	2001	344
	SF	5	-	62
	Total	8547	3577	3590
1999	SH	8399	1420	2372
	FA	205	80	443
	HH	-	2001	557
	SF	18	10	110
	Total	8622	3511	3482
2000	SH	6939	1384	2004
	FA	1095	218	680
	HH	-	1850	328
	SF	17	1	78
	Total	8051	3453	3090
2001	SH	7884	1704	300
	FA	1388	398	66
	HH	-	1964	-
	SF	37	14	3
	Total	9309	4080	369

Table 5.2: Agricultural production in the Bagat rayon

		Cotton	Wheat	Rice
1998	SH	18189	8281	10845
	FA	1511	189	752
	HH	-	11086	2236
	SF	11	-	147
	Total	18351	19556	13980
1999	SH	21732	8476	8344
	FA	540	366	1525
	HH	-	12119	3426
	SF	47	39	162
	Total	22319	21000	13457
2000	SH	13014	7021	1713
	FA	1784	1080	519
	HH	-	11100	984
	SF	14	5	15
	Total	14812	19206	3231
2001	SH	17199	5289	502
	FA	2117	920	48
	HH	-	7856	-
	SF	66	49	-
	Total	19382	14114	550

Table 5.3: Machinery in the Bagat rayon as on 06.06.2003

Tractor types	present	available	%
Ploughs	536	502	94
Ploughs including "Magnum"	8	7	88
Cultivators	156	156	100
Sprayers	19	17	89
Grain harvesters	57	51	89
Grain harvesters including "Case" and "Class"	3	3	100
Tractor trailers	350	297	85
Cargoes	258	219	85
Transportation tractors	139	125	90
Grain shelling machines	16	16	100
Total	801	717	90

Table 5.4: Taxation in the Bagat rayon; in thousand Soum

	2001		2002	
	to be paid	already paid	to be paid	already paid
Income tax	164471	164471	122152	75050
Land tax	79779	79779	-	-
Unified land tax	-	-	98339	73590
Ecology tax	-	-	16	0
Tax on resource usage	-	-	-	-
Local budget payments	4798	4798	-	-
Custom fees	-	-	-	-
Other taxes	926	226	745	61
Fines	346	346	-	-
Total	250320	250320	221252	14871

Table 5.5: Amount of debt written off by the government in December 2001; in thousand Soum

Pension fund	254825
Labor exchange	7144
Profession association	2887
Tax department	4234
Road fund	30816
Neftebaza – provides fuel and lubricants	489810
Agrokimyotaminot – provides min. fertilizers, pesticides, herbicides	153974
Elektr tarmoklari	92031
Gastaminot	84589
Avtotransport	2000
Uzselmashholding	5483
Agromashservis	11728
Kormamash	-
Social insurance credit fund	-
Others	27853
Total	963750
	2131124

Table 5.6: Water consumption in the Bagat rayon; in million m³

		2000	2001	2002	ratio 2002/2000	ratio 2002/2001
Total through the year	Plan	474.909	389.892	410.892	86.5%	105.4%
	Limit	355.365	329.981	339.472	95.5%	102.9%
	Fact	222.607	153.845	271.727	122.1%	176.6%
Used during leaching period	Plan	137.200	122.498	125.989	91.8%	102.8%
	Limit	103.187	92.405	95.583	92.6%	103.4%
	Fact	80.989	60.889	28.662	35.4%	47.1%
Used during the vegetation period	Plan	337.709	267.394	284.903	84.4%	106.5%
	Limit	252.178	237.576	243.889	96.7%	102.7%
	Fact	141.618	92.956	243.065	171.6%	261.5%

5.2 Appendix #2 Gurlen Rayon

Table 5.7: Cropping area for the Bagat rayon in ha

		Cotton	Wheat	Rice
1998	SH	8456	1535	2992
	FA	86	41	192
	HH	-	2001	344
	SF	5	-	62
	Total	8547	3577	3590
1999	SH	8399	1420	2372
	FA	205	80	443
	HH	-	2001	557
	SF	18	10	110
	Total	8622	3511	3482
2000	SH	6939	1384	2004
	FA	1095	218	680
	HH	-	1850	328
	SF	17	1	78
	Total	8051	3453	3090
2001	SH	7884	1704	300
	FA	1388	398	66
	HH	-	1964	-
	SF	37	14	3
	Total	9309	4080	369

Table 5.8: Agricultural production in the Gurlen rayon

		Cotton	Wheat	Rice
1998	SH	23441	4390	31291
	FA	33	36	1255
	HH	-	5928	5103
	SF	71	8	921
	Total	23545	10362	38570
1999	SH	32514	5126	24348
	FA	103	34	1584
	HH	-	5177	5195
	SF	90	6	918
	Total	32707	10343	32045
2000	SH	26980	5099	8622
	FA	550	92	1493
	HH	-	330	2900
	SF	17	7	426
	Total	27547	8498	13441
2001	SH	29928	5238	2621
	FA	2194	480	1135
	HH	-	2925	745
	SF	22	57	239
	Total	32144	8700	4743

Table 5.9: Machinery in the Gurlen rayon as on 06.06.2003

Tractor types	present	ready	%
Ploughs	455	404	91
Ploughs including "Magnum"	12	12	100
Cultivators	209	209	100
Sprayers	11	10	91
Grain harvesters	69	56	81
Grain harvesters including "Case" and "Class"	6	6	100
Tractor trailers	522	447	86
Cargoes	179	149	83
Transportation tractors	315	281	89
Grain shelling machines	14	14	100
Total	900	825	92

Table 5.10: Taxation in the Gurlen rayon; in thousand Soum

	2001		2002	
	to be paid	already paid	to be paid	already paid
Income tax	170910	156015	181490	108767
Land tax	112285	109455	-	-
Unified land tax	-	-	98470	81679
Ecology tax	270	212	-	-
Tax on resource usage	-	-	-	-
Local budget payments	4798	4798	-	-
Custom fees	-	-	-	-
Other taxes	189	189	-	-
Fines	346	346	-	-
Total	288798	271015	280160	190446

Table 5.11: Water consumption in the Gurlen rayon; in million m³

		2000	2001	2002	ratio 2002/2000	ratio 2002/2001
Total through the year	Plan	501.088	488.276	540.567	107.9%	110.7%
	Limit	354.290	466.933	515.232	145.4%	110.3%
	Fact	53.500	225.294	465.552	870.2%	206.6%
Used during leaching period	Plan	137.200	155.977	154.983	113.0%	99.4%
	Limit	103.187	105.252	107.084	103.8%	101.7%
	Fact	80.989	70.756	57.780	71.3%	81.7%
Used during the vegetation period	Plan	337.709	332.299	385.584	114.2%	116.0%
	Limit	252.178	361.681	408.148	161.8%	112.8%
	Fact	141.618	154.538	407.772	287.9%	263.9%

Table 5.12: Debts written off by the government in December 2001; in thousand Soum

Pension fund	406403.7
Labor exchange	13960
Profession association	4464
Tax department	738.5
Road fund	49290
Neftebaza	328508
Agrokimyotaminot	55748
Elektr tarmoklari	80652
Gastaminot	19650
Avtotransport	2000
Uzselmashholding	560
Agromashservis	10297
Kormamash	-
Social insurance	-
credit fund	213695
others	529070.2
Total	1522736.4

5.3 Appendix #3 Kushkupir

Table 5.13: Crop area in Kushkupir rayon; in ha

		Cotton	Wheat	Rice
1998	SH	12849	1845	2916
	FA	231	58	129
	HH	-	1509	245
	SF	40	5	48
	Total	13120	3417	3338
1999	SH	11934	2279	2734
	FA	693	30	431
	HH	-	1509	263
	SF	26	-	52
	Total	12653	3818	3480
2000	SH	9360	1179	1272
	FA	2129	322	562
	HH	-	1500	22
	SF	88	2	36
	Total	11577	3603	1892
2001	SH	10009	1742	0
	FA	3287	943	-
	HH	-	1500	-
	SF	108	5	-
	Total	13404	4190	0

Table 5.14: Agricultural production in the Kushkupir rayon

		Cotton	Wheat	Rice
1998	SH	22987	9213	10097
	FA	194	236	647
	HH	-	8360	1593
	SF	104	16	128
	Total	23285	17825	12465
1999	SH	31241	10172	7057
	FA	1921	133	1391
	HH	-	7847	1183
	SF	89	-	108
	Total	99245	18152	9739
2000	SH	15430	7183	96
	FA	3437	902	60
	HH	-	6450	14
	SF	157	2	9
	Total	19024	14537	179
2001	SH	14372	5856	0
	FA	5966	1792	-
	HH	-	5550	-
	SF	101	2	-
	Total	20439	13200	0

Table 5.15: Machinery in the Kushkupir rayon as on 06.06.2003

Tractor types	present	ready	%
Ploughs	513	460	91
Ploughs including "Magnum"	14	14	100
Cultivators	179	179	100
Sprayers	15	13	91
Grain harvesters	29	27	81
Grain harvesters including "Case" and "Class"	2	2	100
Tractor trailers	424	361	86
Cargoes	220	189	83
Transportation tractors	202	180	89
Grain shelling machines	5	5	100
Total	794	713	90

Table 5.16: Water consumption in the Kushkupir rayon; in million m³

		2000	2001	2002	ratio 2002/2000	ratio 2002/2001
Total through the year	Plan	648.665	509.862	551.451	85,0%	108,2%
	Limit	490.581	453.620	549.555	112,0%	121,1%
	Fact	380.527	237.456	455.071	119,6%	191,6%
Used during leaching period	Plan	200.895	184.691	186.859	93,0%	101,2%
	Limit	151.683	136.528	142.698	94,1%	104,5%
	Fact	146.020	120.734	46.110	31,6%	38,2%
Used during the vegetation period	Plan	447.770	325.171	364.592	81,4%	112,1%
	Limit	338.898	317.092	406.857	120,1%	128,3%
	Fact	234.507	116.722	408.961	174,4%	350,4%

Table 5.17: Debts written off by the government in December 2001; in thousand Soum

Pension fund	218493
Labor exchange	6185
Profession association	7566
Tax department	9981
Road fund	31223
Neftebaza	556646
Agrokimyotaminot	142641
Elektr tarmoklari	75394
Gastaminot	50000
Avtotransport	1000
Uzselmashholding	7593
Agromashservis	17976
Kormamash	300
Social insurance	-
credit fund	29768
others	1072189
Total	2226955

Table 5.18: Taxation in the Kushkupir rayon; in thousand Soum

	2001		2002	
	to be paid	already paid	to be paid	already paid
Income tax	101976	92266	101798	46328
Land tax	105931	53570	117036	102727
Unified land tax	-	-	-	-
Ecology tax	-	-	-	-
Tax on resource usage	-	-	-	-
Local budget payments	-	-	-	-
Custom fees	-	-	-	-
Other taxes	207907	145836	-	-
Fines	-	-	-	-
Total	415814	291672	218834	149055

5.4 Appendix #4 Urgench

Table 5.19: Crop area in the Urgench area; in ha

		Cotton	Wheat	Rice
1998	SH	10920	1938	2852
	FA	289	99	482
	HH	-	1495	146
	SF	110	131	1225
	Total	11319	3663	4703
1999	SH	10934	1768	2579
	FA	443	65	576
	HH	-	1523	154
	SF	154	112	1508
	Total	11531	3468	4817
2000	SH	8980	1731	2059
	FA	1613	259	1324
	HH	-	1550	147
	SF	150	193	963
	Total	10743	3733	4493
2001	SH	9255	1583	329
	FA	2754	305	192
	HH	-	1323	3
	SF	245	150	127
	Total	12254	3361	651

Table 5.20: Agricultural production in the Urgench rayon

		Cotton	Wheat	Rice
1998	SH	20288	8637	9267
	FA	625	425	1673
	HH	-	8282	949
	SF	222	131	2829
	Total	21135	17475	14718
1999	SH	3134	8976	6337
	FA	1288	325	1988
	HH	-	9001	924
	SF	451	318	3615
	Total	33073	18620	12864
2000	SH	17546	7844	1156
	FA	3496	1049	1000
	HH	-	9300	164
	SF	279	504	888
	Total	21321	18697	3208
2001	SH	19187	4915	419
	FA	6397	1818	235
	HH	-	6621	17
	SF	552	410	86
	Total	26136	13764	757

Table 5.21: Machinery in the Urgench rayon as on 06.06.2003

Tractor types	present	ready	%
Ploughs	406	366	90%
Ploughs including "Magnum"	13	13	100%
Cultivators	182	182	100%
Sprayers	16	14	88%
Grain harvesters	29	27	93%
Grain harvesters including Case" and "Class"	4	4	100%
Tractor trailers	348	297	85%
Cargoes	207	173	84%
Transportation tractors	157	141	90%
Grain shelling machines	5	5	100%
Tractors total	695	602	87%

Table 5.22: Taxation in the Urgench rayon; in thousand Soum

	2001		2002	
	to be paid	already paid	to be paid	already paid
Income tax	141788	160935	95711	136719
Land tax	126656	42908	-	-
Unified land tax	-	-	132525	91457
Ecology tax	-	-	-	-
Tax on resource usage	-	-	-	-
Local budget payments	-	-	-	-
Custom fees	-	-	-	-
Other taxes	848	3510	-	-
Fines	-	-	-	-
Total	269292	207353	228236	228176

Table 5.23: Debts written off by the government in December 2001; in thousand Soum

Pension fund	229264.9
Labor exchange	6943.7
Profession association	4095.4
Tax department	159509
Road fund	36603
Neftebaza	359602
Agrokimyotaminot	66307
Elektr tarmoklari	61880
Gastaminot	42330
Avtotransport	1400
Uzselmashholding	-
Agromashservis	28427
Kormamash	300
Social insurance	-
credit fund	15989.8
others	571651.6
Total	1584303.4

Table 5.24: Water consumption in the Urgench rayon; in million m³

		2000	2001	2002	ratio 2002/2000	ratio 2002/2001
Total through the year	Plan	568.422	442.213	473.139	83,2%	107,0%
	Limit	471.284	414.147	456.240	96,8%	110,2%
	Fact	336.521	227.074	418.803	124,5%	184,4%
Used during leaching period	Plan	152.960	134.340	132.849	86,9%	98,9%
	Limit	123.242	108.797	99.776	81,0%	91,7%
	Fact	121.447	91.639	60.058	49,5%	65,5%
Used during the vegetation period	Plan	415.462	307.873	340.292	81,9%	110,5%
	Limit	348.042	305.350	356.464	102,4%	116,7%
	Fact	215.074	135.435	358.745	166,8%	264,9%

5.5 Appendix #5 Khazarasp

Table 5.25: Crop area in the Khazarasp rayon; in ha

		Cotton	Wheat	Rice
1998	SH	8038	1302	1848
	FA	10	43	60
	HH	-	1687	449
	SF	-	-	11
	Total	8048	3032	2368
1999	SH	7906	1147	976
	FA	25	13	103
	HH	-	1719	285
	SF	-	-	19
	Total	7931	2879	1383
2000	SH	7801	1262	1056
	FA	50	35	326
	HH	-	1450	445
	SF	-	3	14
	Total	7851	2750	1841
2001	SH	8222	1267	224
	FA	131	228	68
	HH	-	1505	126
	SF	30	16	-
	Total	8383	3016	418

Table 5.26: Agricultural production in the Khazarasp rayon

		Cotton	Wheat	Rice
1998	SH	16195	6534	4153
	FA	48	218	180
	HH	-	9345	2919
	SF	179	-	32
	Total	16422	16097	7284
1999	SH	22455	5161	3003
	FA	97	51	387
	HH	-	8673	2239
	SF	-	-	54
	Total	22552	13885	5683
2000	SH	13063	5111	672
	FA	159	150	254
	HH	-	8120	1640
	SF	-	10	-
	Total	13222	13391	2566
2001	SH	21797	4568	214
	FA	483	431	122
	HH	-	5781	390
	SF	128	32	-
	Total	22408	10812	726

Table 5.27: Machinery in the Khazarasp rayon as on 06.06.2003

Tractor types	present	ready	%
Ploughs	433	404	93%
Ploughs including "Magnum"	15	15	100%
Cultivators	189	189	100%
Sprayers	13	12	92%
Grain harvesters	22	19	86%
Grain harvesters including "Case" and "Class"	6	4	67%
Tractor trailers	394	339	86%
Cargoes	185	158	85%
Transportation tractors	156	143	92%
Grain shelling machines	10	10	100%
Tractors total	762	718	94%

Table 5.28: Taxation in the Khazarasp rayon; in thousand Soum

	2001		2002	
	to be paid	already paid	to be paid	already paid
Income tax	125425	107359	207719	100812
Land tax	87955	85922	-	-
Unified land tax	-	-	131835	111312
Ecology tax	72	40	-	-
Tax on resource usage	-	-	-	-
Local budget payments	869	869	-	-
Custom fees	-	-	-	-
Other taxes	167	167	-	-
Fines	-	-	-	-
Total	214488	194357	279095	170368

Table 5.29: Taxation in the Khazarasp rayon; in thousand Soum

	2001		2002	
	to be paid	already paid	to be paid	already paid
Income tax	125425	107359	207719	100812
Land tax	87955	85922	-	-
Unified land tax	-	-	131835	111312
Ecology tax	72	40	-	-
Tax on resource usage	-	-	-	-
Local budget payments	869	869	-	-
Custom fees	-	-	-	-
Other taxes	167	167	-	-
Fines	-	-	-	-
Total	214488	194357	279095	170368

Table 5.30: Debts written off by the government in December 2001; in thousand Soum

Pension fund	345874
Labor exchange	11674
Profession association	-
Tax department	3777
Road fund	355543
Neftebaza	484919
Agrokimyotaminot	145671
Elektr tarmoklari	120381
Gastaminot	158307
Avtotransport	3280
Uzselmashholding	-
Agromashservis	31046
Kormamash	2315
Social insurance	5663
credit fund	-
others	941894
Total	2290344

Table 5.31: Water consumption in the Khazarasp rayon; in million m³

		2000	2001	2002	Ratio2002 / 2000	ratio 2002/2001
Total through the year	Plan	365.846	304.289	353.566	96.6%	116.2%
	Limit	289.994	262.753	276.198	95.2%	105.1%
	Fact	212.964	163.071	230.860	108.4%	141.6%
Used during leaching period	Plan	116.035	105.054	106.354	91.7%	101.2%
	Limit	86.867	79.400	75.933	87.4%	95.6%
	Fact	79.099	53.404	30.255	38.2%	56.7%
Used during the vegetation period	Plan	249.811	199.235	247.212	99.0%	124.1%
	Limit	203.127	183.353	200.265	98.6%	109.2%
	Fact	133.865	109.667	200.605	149.9%	182.9%

5.6 Appendix #6 Khonka

Table 5.32: Cropping area in the Khonka rayon; in ha

		Cotton	Wheat	Rice
1998	SH	10606	1740	4235
	FA	296	64	405
	HH	-	1780	61
	SF	119	16	340
	Total	11021	3600	5041
1999	SH	10821	1631	3795
	FA	216	43	746
	HH	-	1800	164
	SF	85	11	192
	Total	11122	3485	4897
2000	SH	10550	1844	2647
	FA	218	155	896
	HH	-	1800	165
	SF	90	15	216
	Total	10858	3814	3924
2001	SH	12108	2117	253
	FA	531	597	444
	HH	-	1820	-
	SF	307	42	53
	Total	12946	4576	750

Table 5.33: Agricultural production in the Khonka rayon

		Cotton	Wheat	Rice
1998	SH	26953	9068	18056
	FA	846	293	1858
	HH	-	9861	397
	SF	128	79	1037
	Total	27927	19301	21348
1999	SH	34775	9041	13391
	FA	725	216	3530
	HH	-	9918	869
	SF	233	60	797
	Total	35733	19235	18587
2000	SH	30086	10055	3768
	FA	548	682	1392
	HH	-	10116	462
	SF	215	52	389
	Total	30849	20905	6011
2001	SH	31911	8557	356
	FA	1315	1302	757
	HH	-	7098	-
	SF	720	118	100
	Total	33946	17075	1213

Table 5.34: Machinery in the Khonka rayon as on 06.06.2003

Tractor types	present	ready	%
Ploughs	604	575	95%
Ploughs including "Magnum"	9	9	100%
Cultivators	223	223	100%
Sprayers	24	21	88%
Grain harvesters	60	53	88%
Grain harvesters including "Case" and "Class"	6	6	100%
Tractor trailers	503	437	87%
Cargoes	225	189	84%
Transportation tractors	190	171	90%
Grain shelling machines	14	14	100%
Tractors total	869	766	88%

Table 5.35: Taxation in the Khonka rayon; in thousand Soum

	2001		2002	
	to be paid	already paid	to be paid	already paid
Income tax	157826	176428	146015	82664
Land tax	121171	117418	121690	94572
Unified land tax	-	-	-	-
Ecology tax	-	-	-	-
Tax on resource usage	-	-	-	-
Local budget payments	-	-	-	-
Custom fees	-	-	-	-
Other taxes	1213	9587	-	-
Fines	-	-	-	-
Total	280210	303433	267705	177236

Table 5.36: Debts written off by the government in December 2001; in thousand Soum

Pension fund	248325
Labor exchange	10311
Profession association	4866
Tax department	2146
Road fund	55415
Neftebaza	349714
Agrokimyotaminot	48166
Elektr tarmoklari	27480
Gastaminot	27480
Avtotransport	1500
Uzselmashholding	4540
Agromashservis	17738
Kormamash	1585
Social insurance	-
credit fund	-
others	442596
Total	1241862

Table 5.37: Water consumption in the Khonka rayon; in million m³

		2000	2001	2002	ratio 2002/2000	ratio 2002/2001
Total through the year	Plan	523.424	410.072	440.510	84.2%	107.4%
	Limit	391.628	361.291	321.718	82.1%	89.0%
	Fact	266.926	190.851	268.308	100.5%	140.6%
Used during leaching period	Plan	139.963	122.408	119.428	85.3%	97.6%
	Limit	103.232	90.597	89.952	87.1%	99.3%
	Fact	95.870	76.245	37.513	39.1%	49.2%
Used during the vegetation period	Plan	383.461	287.664	321.082	83.7%	111.6%
	Limit	288.396	270.694	231.766	80.4%	85.6%
	Fact	171.056	114.606	230.795	134.9%	201.4%

5.7 Appendix #7 Khiva

Table 5.38: Cropping area in the Khiva rayon; in ha

		Cotton	Wheat	Rice
1998	SH	8246	920	1859
	FA	122	34	86
	HH	-	1357	215
	SF	10	28	86
	Total	8378	2339	2246
1999	SH	7886	872	1990
	FA	190	28	111
	HH	-	1382	148
	SF	145	20	96
	Total	8221	2302	2345
2000	SH	6515	669	1177
	FA	915	262	540
	HH	-	1350	5
	SF	106	35	68
	Total	7536	2316	1790
2001	SH	6792	1291	321
	FA	1499	668	130
	HH	-	1492	-
	SF	10	41	28
	Total	8301	3492	479

Table 5.39: Agricultural production in the Khiva rayon

		Cotton	Wheat	Rice
1998	SH	21970	4943	5842
	FA	275	170	484
	HH	-	7518	1398
	SF	178	38	249
	Total	22423	12669	7973
1999	SH	24740	5114	5362
	FA	567	125	622
	HH	-	7615	889
	SF	328	59	247
	Total	25635	12913	7120
2000	SH	12119	3614	603
	FA	1829	988	193
	HH	-	6764	10
	SF	52	43	31
	Total	14000	11409	837
2001	SH	15071	2613	228
	FA	3835	1060	55
	HH	-	4518	-
	SF	2	39	66
	Total	18908	8230	349

Table 5.40: Machinery in the Khiva rayon as on 06.06.2003

Tractor types	present	ready	%
Ploughs	409	375	92%
Ploughs including "Magnum"	9	9	100%
Cultivators	124	124	100%
Sprayers	18	16	89%
Grain harvesters	22	20	91%
Grain harvesters including "Case" and "Class"	2	2	100%
Tractor trailers	348	310	89%
Cargoes	138	116	84%
Transportation tractors	115	102	89%
Grain shelling machines	11	11	100%
Tractors total	588	542	92%

Table 5.41: Taxation in the Khiva rayon; in thousand Soum

	2001		2002	
	to be paid	already paid	to be paid	already paid
Income tax	91629	88233	94708	93640
Land tax	68958	49760	-	-
Unified land tax	-	-	75908	76544
Ecology tax	-	-	-	-
Tax on resource usage	-	-	-	-
Local budget payments	-	-	-	-
Custom fees	-	-	-	-
Other taxes	91	0	-	-
Fines	-	-	-	-
Total	160678	137993	170616	170184

Table 5.42: Debts written off by the government in December 2001; in thousand Soum

Pension fund	175315
Labor exchange	7332
Profession association	-
Tax department	3499
Road fund	2849
Neftebaza	327198
Agrokimyotaminot	73367
Elektr tarmoklari	47094
Gastaminot	51142
Avtotransport	400
Uzselmashholding	-
Agromashservis	29395
Kormamash	2245
Social insurance credit fund	3658
others	24842
others	510984
Total	1259320

Table 5.43: Water consumption in the Khiva rayon; in million m³

		2000	2001	2002	ratio 2002/2000	ratio 2002/2001
Total through the year	Plan	387.422	323.936	350.067	90.4%	108.1%
	Limit	310.967	284.205	320.017	102.9%	112.6%
	Fact	244.282	162.355	271.668	111.2%	167.3%
Used during leaching period	Plan	118.772	108.512	108.534	91.4%	100.0%
	Limit	97.295	89.194	82.884	85.2%	92.9%
	Fact	95.512	77.116	32.547	34.1%	42.2%
Used during the vegetation period	Plan	268.650	215.424	241.533	89.9%	112.1%
	Limit	213.672	195.011	237.133	111.0%	121.6%
	Fact	148.770	85.239	239.121	160.7%	280.5%

5.8 Appendix #8 Shavat

Table 5.44: Cropping area in the Shavat rayon; in ha

		Cotton	Wheat	Rice
1998	SH	11141	2357	3324
	FA	89	64	155
	HH	-	1560	40
	SF	164	95	154
	Total	11394	4076	3673
1999	SH	11145	2161	2841
	FA	101	54	229
	HH	-	1905	112
	SF	174	20	196
	Total	11420	4140	3378
2000	SH	10350	2242	1583
	FA	195	71	217
	HH	-	1900	88
	SF	339	18	166
	Total	10884	4231	2054
2001	SH	11656	2607	0
	FA	635	262	13
	HH	-	1900	-
	SF	317	106	-
	Total	12608	4875	13

Table 5.45: Agricultural production in the Shavat region

		Cotton	Wheat	Rice
1998	SH	25240	12406	9952
	FA	146	396	499
	HH	-	8642	260
	SF	226	420	414
	Total	25612	21864	11125
1999	SH	33075	11821	8669
	FA	313	370	712
	HH	-	10496	504
	SF	414	191	408
	Total	33802	22878	10293
2000	SH	21914	11416	1065
	FA	311	369	132
	HH	-	10488	228
	SF	370	80	52
	Total	22595	22353	1477
2001	SH	24353	7959	39
	FA	1268	691	7
	HH	-	7068	-
	SF	309	188	-
	Total	25930	15906	46

Table 5.46: Machinery in the Shavat rayon

Tractor types	present	ready	%
Ploughs	577	523	91%
Ploughs including "Magnum"	11	10	91%
Cultivators	214	214	100%
Sprayers	25	22	88%
Grain harvesters	45	40	89%
Grain harvesters including "Case" and "Class"	2	2	100%
Tractor trailers	514	441	86%
Cargoes	222	192	86%
Transportation tractors	237	214	90%
Grain shelling machines	12	12	100%
Tractors total	959	836	87%

Table 5.47: Taxation in Shavat rayon; in thousand Soum

	2001		2002	
	to be paid	already paid	to be paid	already paid
Income tax	180808	125148	169001	77243
Land tax	118169	53876	-	-
Unified land tax	-	-	131161	89538
Ecology tax	1059	1054	-	-
Tax on resource usage	-	-	-	-
Local budget payments	-	-	-	-
Custom fees	-	-	-	-
Other taxes	-	-	-	-
Fines	-	-	-	-
Total	300036	180078	300162	166781

Table 5.48: Debts written off by the government in December 2001; in thousand Soum

Pension fund	348778
Labor exchange	12278
Profession association	3726
Tax department	5224
Road fund	47706
Neftebaza	415718
Agrokimyotaminot	82936
Elektr tarmoklari	43080
Gastaminot	84160
Avtotransport	1500
Uzselmashholding	2710
Agromashservis	13466
Kormamash	-
Social insurance	-
credit fund	20378
others	592010
Total	1673670

Table 5.49: Water consumption in the Shavat rayon; in million m³

		2000	2001	2002	ratio 2002/2000	ratio 2002/2001
Total through the year	Plan	569.166	466.314	515.007	90.5%	110.4%
	Limit	427.561	397.098	419.961	98.2%	105.8%
	Fact	313.944	178.520	324.699	103.4%	181.9%
Used during leaching period	Plan	179.145	165.369	175.575	98.0%	106.2%
	Limit	124.676	117.356	134.070	107.5%	114.2%
	Fact	116.848	82.931	39.642	33.9%	47.8%
Used during the vegetation period	Plan	390.018	300.945	339.432	87.0%	112.8%
	Limit	302.885	279.742	285.891	94.4%	102.2%
	Fact	197.096	89.589	285.057	144.6%	318.2%

5.9 Appendix #9 Yangiarik

Table 5.50: Cropping area in the Yangiarik rayon; in ha

		Cotton	Wheat	Rice
1998	SH	6632	1022	3324
	FA	178	59	155
	HH	-	1090	40
	SF	10	18	154
	Total	6820	2189	3673
1999	SH	6584	990	2841
	FA	228	32	229
	HH	-	1000	112
	SF	10	-	196
	Total	6822	2022	3378
2000	SH	6160	1021	1583
	FA	314	77	217
	HH	-	1000	88
	SF	12	2	166
	Total	6486	2100	2054
2001	SH	5952	788	0
	FA	1090	502	13
	HH	-	1000	-
	SF	78	17	-
	Total	7120	2307	13

Table 5.51: Agricultural production in the Yangiarik rayon

		Cotton	Wheat	Rice
1998	SH	15710	5139	7037
	FA	458	286	1327
	HH	-	6039	1830
	SF	9	66	737
	Total	16177	11530	10931
1999	SH	19477	5189	5933
	FA	671	212	1463
	HH	-	5580	3030
	SF	30	-	847
	Total	20178	10981	11273
2000	SH	12393	4077	577
	FA	746	274	383
	HH	-	5500	1330
	SF	25	15	64
	Total	13164	9866	2354
2001	SH	9418	2212	21
	FA	1996	1176	8
	HH	-	4013	-
	SF	36	31	-
	Total	11450	7432	29

Table 5.52: Machinery in the Yangiarik rayon as on 06.06.2003

Tractor types	present	ready	%
Ploughs	325	295	91%
Ploughs including "Magnum"	8	8	100%
Cultivators	121	121	100%
Sprayers	9	8	89%
Grain harvesters	34	31	91%
Grain harvesters including "Case" and "Class"	2	2	100%
Tractor trailers	236	198	84%
Cargoes	126	107	85%
Transportation tractors	105	94	90%
Grain shelling machines	10	10	100%
Tractors total	510	479	94%

Table 5.53: Taxation in the Yangiariik rayon; in thousand Soum

	2001		2002	
	to be paid	already paid	to be paid	already paid
Income tax	48314	39328	73261	35988
Land tax	50124	50124	74648	37697
Unified land tax	-	-	-	-
Ecology tax	-	-	-	-
Tax on resource usage	-	-	-	-
Local budget payments	-	-	-	-
Custom fees	-	-	-	-
Other taxes	-	-	-	-
Fines	-	-	-	-
Total	98438	89452	147909	73685

Table 5.54: Debts written off by the Government in December 2001; in thousand Soum

Pension fund	162618
Labor exchange	5605
Profession association	-
Tax department	4259
Road fund	18431
Neftebaza	341612
Agrokimyotaminot	77047
Elektr tarmoklari	27855
Gastaminot	32800
Avtotransport	-
Uzselmashholding	760
Agromashservis	28146
Kormamash	450
Social insurance	1010
credit fund	14303
others	612006
Total	1326902

Table 5.55: Water consumption in the Yangiariik rayon

		2000	2001	2002	ratio 2002/2000	ratio 2002/2001
Total through the year	Plan	383.498	294.308	334.778	87.3%	113.8%
	Limit	317.175	283.465	333.719	105.2%	117.7%
	Fact	247.238	147.338	284.401	115.0%	193.0%
Used during leaching period	Plan	109.132	97.505	103.728	95.0%	106.4%
	Limit	93.559	81.813	79.217	84.7%	96.8%
	Fact	91.765	62.361	27.672	30.2%	44.4%
Used during the vegetation period	Plan	274.366	196.803	231.050	84.2%	117.4%
	Limit	223.616	201.652	254.502	113.8%	126.2%
	Fact	155.479	84.977	256.729	165.1%	302.1%

5.10 Appendix #10 Yangibazar

Table 5.56: Cropping area ion the Yangibazar rayon; in ha

		Cotton	Wheat	Rice
1998	SH	9013	1550	3069
	FA	586	95	415
	HH	-	880	173
	SF	-	21	97
	Total	9599	2546	3754
1999	SH	8873	1360	2922
	FA	604	123	521
	HH	-	800	166
	SF	-	24	121
	Total	9477	2307	3730
2000	SH	7995	1536	1634
	FA	1116	305	1095
	HH	-	800	166
	SF	7	5	87
	Total	9118	2646	2982
2001	SH	7332	1438	1561
	FA	3018	1024	185
	HH	-	800	50
	SF	227	48	23
	Total	10577	3310	1819

Table 5.57: Agricultural production in the Yangibazar rayon

		Cotton	Wheat	Rice
1998	SH	16889	7343	10219
	FA	814	376	1631
	HH	-	4875	1125
	SF	-	44	307
	Total	17703	12638	13282
1999	SH	25151	6937	10054
	FA	1713	498	1909
	HH	-	4408	747
	SF	-	64	351
	Total	26864	11907	13061
2000	SH	15815	5881	901
	FA	2459	1060	1283
	HH	-	4480	498
	SF	2	5	55
	Total	18276	11426	2737
2001	SH	19429	5584	2816
	FA	6930	2763	278
	HH	-	3047	227
	SF	536	79	37
	Total	26895	11473	3358

Table 5.58: Taxation in the Yangibazar rayon; in thousand Soum

	2001		2002	
	to be paid	already paid	to be paid	already paid
Income tax	115793	102628	97946	60761
Land tax	70931	68377	-	-
Unified land tax	-	-	84740	58850
Ecology tax	-	-	-	-
Tax on resource usage	33	-	-	-
Local budget payments	-	-	-	-
Custom fees	-	-	-	-
Other taxes	-	-	-	-
Fines	5902	-	-	-
Total	192659	171005	182686	119611

Table 5.59: Machinery in the Yangibazar rayon

Tractor types	present	ready	%
Ploughs	357	322	90%
Ploughs including "Magnum"	9	9	100%
Cultivators	179	179	100%
Sprayers	23	20	87%
Grain harvesters	40	37	93%
Grain harvesters including "Case" and "Class"	5	5	100%
Tractor trailers	349	293	84%
Cargoes	170	141	83%
Transportation tractors	176	154	88%
Grain shelling machines	6	6	100%
Tractors total	634	566	89%

Table 5.60: Debts written off by the government in December 2001; in thousand Soum

Pension fund	252655
Labor exchange	9126
Profession association	-
Tax department	7568
Road fund	28061
Neftebaza	322838
Agrokimyotaminot	76516
Elektr tarmoklari	28181
Gastaminot	19500
Avtotransport	2120
Uzselmashholding	3144
Agromashservis	48278
Kormamash	-
Social insurance	-
credit fund	-
others	418606
Total	1216595

Table 5.61: Water consumption in the Yangibazar rayon

		2000	2001	2002	ratio 2002/2000	ratio 2002/2001
Total through the year	Plan	469.773	357.550	406.254	86.5%	113.6%
	Limit	388.320	338.509	404.818	104.2%	119.6%
	Fact	282.891	214.738	363.317	128.4%	169.2%
Used during leaching period	Plan	133.631	120.258	110.810	82.9%	92.1%
	Limit	106.726	96.183	82.138	77.0%	85.4%
	Fact	106.132	73.076	42.544	40.1%	58.2%
Used during the vegetation period	Plan	336.142	237.292	295.444	87.9%	124.5%
	Limit	281.594	242.326	322.680	114.6%	133.2%
	Fact	176.759	141.662	320.773	181.5%	226.4%